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The Bradshaw Lecture

ON

SOME CLINICAL CONTRIBUTIONS TO THE STUDY OF GLYCOSURIA.

Delivered before the Royal College of Physicians of London on Nov. 3rd, 1914,

BY NESTOR TIRARD, M.D. LOND., F.R.C.P. LOND.,

PROFESSOR OF MEDICINE, KING'S COLLEGE; SENIOR PHYSICIAN, KING'S COLLEGE HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—The Bradshaw lecture, under the terms of its foundation, may be on some subject connected with either medicine or surgery. For many years past the study of glycosuria and diabetes has been vigorously pursued by experimental methods, yet I venture to hope that clinical observations of these conditions may still have practical bearing upon our conceptions of the etiology, the prognosis, and the treatment. Although glycosuria and diabetes ordinarily belong to the province of the physician rather than to that of the surgeon, there are many occasions upon which these two branches of the profession must act conjointly. From clinical observations I hope not only to throw out some light for the guidance of surgeons in some of the difficulties which arise, but also to show that my subject to-day combines both elements of the terms of the foundation of the Bradshaw lecture.

THE NATURE OF GLYCOSURIA.

While all results of experiment are entitled to careful consideration, many clinicians feel that we are perhaps devoting too much attention to the results of one phase of laboratory work, while scarcely sufficient stress is being placed upon another—viz., the definite result of careful chemical and clinical research. I have long been of opinion that in glycosuria and diabetes we are dealing with defective vital processes which may have no constant underlying pathological change. In other words, I have been tempted rather to look for numerous causes of perversion of physiological processes, instead of attempting to fix upon any single factor for glycosuria.

A study of the history of the contributions to our knowledge of this condition would, I believe, warrant the following propositions:—

1. From the clinical side it might be assumed that glycosuria is encountered under too many varying conditions for it to be due to one constant pathological change.

2. In spite of laborious research no one pathological change has hitherto been demonstrated. As Dr. Saundby has remarked, "The most important common lesion is the wasting of the pancreas," but he does not mean "common to all," since he has enumerated many cases in which the pancreas was either normal or enlarged, instead of being atrophic. Indeed, out of 27 cases he examined, only 13 showed atrophic changes of the pancreas; in the others the pancreas was enlarged, congested, or normal.

3. Glycosuria must be regarded as a perversion of a natural physiological process, and the importance of the condition depends upon the extent and duration of this perverted process. It would appear legitimate to compare the change with the perverted growth of natural cells, which is considered to be the underlying factor of cancerous growths.

4. When endeavouring to trace the cause of a perversion of a natural process we must not expect to be able to demonstrate gross lesions on the post-mortem table. Lesions may certainly be found if the perversion has been long continued, but, since the process is vital, changes must be sought in the method of working rather than in the structure. In cases of long duration the structure of various organs is necessarily altered as a result of the disease, as Dr. Saundby has remarked, but in all probability the negative results of post-mortem investigations may be due to the rapidity of the termination, which often leaves all parts wasted, without incriminating any special organ. The general machinery shows the result of lack of coördination of work, but the cause for the lack of harmony can only be found while the machinery is in action. Similarly, we cannot expect to derive certainty of information from physiological experiments in which the conditions are so far removed from those of human life. Post-mortem observations and physiological experiments are indeed of great value in suggesting lines of possible explanation, but I believe we are likely to get nearer the truth by a careful consideration of the data supplied by pathological chemistry. These data, in turn, must be checked by clinical deductions.

GRAPHIC RECORDS.

I should like now to direct your attention to various observations which have been carried on under my direction for many years past. The first step of an independent nature arose from my dissatisfaction with the ordinary mode of collecting and tabulating the results of analysis of the urine. It has long been customary (and it is indeed the only method) to receive reports upon small samples of the urine, and these reports appear in terms of the relative proportion of sugar in the particular specimen examined. This report is made in the form of so many grains of sugar to the ounce of urine, or of so much per cent., and the value to be attached to these figures must be calculated from a knowledge of the amout of urine passed in the 24 hours. This is, of course, a perfectly simple matter to estimate, if careful records are kept of the quantity passed. We have merely to multiply to get the amount of sugar eliminated on any particular day. The result, however, is that we obtain a chart indicating in a series of columns the quantity of liquid taken, the quantity of urine passed, the amount of sugar in grains per ounce, and the calculated number of grains of sugar passed in the 24 hours. Although such a chart is of considerable value, it is a little difficult to estimate the course of the case when dealing merely with columns of figures, and there is no doubt that daily variations would be more easily appreciated if they could be represented graphically.

The first step, then, that was taken was the preparation of a chart like a temperature chart, which should show daily the total quantity of sugar as estimated from the examination of the mixed specimen of known volume. In following the curve it was easy to see at a glance what daily variations resulted from different modes of treatment or of diet. Charts prepared in this way merely served at first to confirm much of our previous knowledge of the various types of glycosuria and diabetes. They graphically indicated the important distinctions between diabetes

occurring early or late in life, and they further showed how often the glycosuria of the aged could be regarded as a trivial matter, readily controlled by due modifications of diet. There is no novelty in this, but the graphic chart certainly made the observations more obvious.

Having realised the utility of this chart, the next step was to indicate alterations in the weight of the patient, and by assigning a different value to the divisions of the chart it was possible to represent these changes in graphic form. For a length of time the charts we employed remained in this simple form, but in view of Graham Lusk's observations upon the dextrose : nitrogen ratio (D : N) we hoped that information of some value might be derived from similarly recording upon the same chart the daily estimation of the quantity of urea passed.

Before saying more about these charts I would venture to indicate how the personal factor has been carefully eliminated, since the observations on any particular day have been made by different individuals. Thus as part of the ordinary routine of work the staff nurse has recorded daily the amount of urine passed in 24 hours, and also the specific gravity of a mixed sample. This mixed sample has been daily examined in the pathological department, which has supplied a report showing the number of grains of glucose per ounce. From these data the daily amount of sugar has been calculated and recorded on the urine chart, while a separate chart prepared by the sister in the ward noted these results. Similarly the daily estimation of the urea and the weekly weight of the patient have been recorded.

In using sectional charts it was soon found that it was convenient to assign different values to the big squares. For example, if the amount of sugar was small it was better to assign a high value to each square, so as to keep the separate curves well apart from one another. We have usually kept to the same value for the urea and for the weight, but we have sometimes let each square represent either 100 or 200 grains of sugar. Therefore in considering any single chart it is important to remember the key which indicates the value of the square on that chart.

I lay some stress upon the number of hands through which these records passed. Those who tested and those who did the calculations before the records were entered had no knowledge of the changes that might have been made in the wards, either in diet or in treatment. I would also add that when we came to realise the value of these charts we endeavoured to avoid erroneous inferences by not making changes in the diet and in the treatment upon the same day.

In every case of glycosuria or diabetes it is common knowledge that patients may be restive and may surreptitiously obtain unauthorised starches and sugars. In keeping these records in hospital it is generally easy to trace any such departure from rules. Occasionally we are sufficiently fortunate to deal for long periods with absolutely trustworthy coöperation on the part of the patient, as well as on the part of all who have to make the records. In these comparatively rare cases a record that has been kept over a period of many months becomes of considerable value, and it is from such records that I have ventured to draw certain conclusions which I propose putting before the College to-day.

Before entering upon these conclusions it may be well to state that I do not propose to weary you with lengthy details of individual cases or with a formidable array of figures which might easily be drawn from my charts.

Relative Influence of Diet and of Drugs.

Naturally one of the first features to claim attention was a comparison between the influence of diet and of various drugs upon the amount of glycosuria. This comparison is easy to make when the condition of patients on admission to the hospital permits two or three days to be devoted to a record of the daily output of sugar while on ordinary diet, and when they are sufficiently well also to permit a further short period to be spent in recording the changes which result from the gradual elimination of materials which would contribute to the formation of glucose. Under these circumstances we have found, in common with other observers, that an enormous reduction in sugar results during the first few days of the limited diet. In gouty, obese individuals of advanced age the sugar may entirely disappear under the influence of diet alone; this is especially noteworthy when the urine has been of comparatively low specific gravity and when there have been no urgent symptoms. In other cases we soon reach a stage beyond which it appears that no further benefit is to be expected from the ordinary hospital or hygienic surroundings, care, and limitation of starchy and saccharine material. In some cases, where patients previous to admission to the hospital have been treated as out-patients and dieting in their own homes, it has been necessary to combine dietetic and medicinal treatment immediately, and in these it has been difficult to determine to which form of treatment the rapid diminution of sugar was to be attributed.

On some occasions medicinal treatment has preceded any dietetic change, and the conclusions formed have been that such treatment without alteration of diet is of comparatively little value. Some reduction in the daily output of sugar has ensued during the first few days, but it has been difficult to avoid suspecting that this diminution might be the result of hospital management rather than of the remedies employed.

I do not propose to take up time by speaking of the relative value of different special or proprietary forms of diabetic food. I have used many varieties and have formed the opinion that to a large extent the taste of the individual has frequently to be consulted in the selection or the continued use of any particular variety of diabetic food or bread substitute. I have found repeatedly that after one form of food has been taken for a time and changed to another, the impetus of novelty will at first encourage the patient, even though there may be no important change to be recorded on the chart. On the other hand, where there has been marked distaste for the new form of food there has usually been an increase in the daily percentage of sugar, which has rendered it advisable to revert to the form originally well tolerated.

Relative Influence of Various Drugs.

Directly we introduced the system of keeping records in graphic form, it was realised that the method was likely to be valuable in enabling us to trace the influence of drugs upon the amount of glycosuria. In these investigations it was obviously important to avoid being misled, either by the sensations or statements of the patient or by

making changes of more than one factor at a time. For example, if possible we never changed the diet and the treatment simultaneously. Further, when a change of remedy was made we endeavoured to give the new remedy in a similar form to the one previously used—we might substitute one pill for another of different composition, or one mixture for another, but we did our best not to confuse the issue either by making too many changes at once or by placing reliance upon statements of improved sensations, which conceivably might be due to the sanguine expectations of a new mode of treatment. We sought cold impartial accuracy of result rather than the enthusiastic welcome of some new thing.

In the selection of the remedies employed we have been guided sometimes by theoretical considerations, sometimes by statements of the experience of other clinicians. Some of the remedies have been clearly used or recommended on an idea derived from physiological experiments, and therefore have some relation to the prevalent theory of glycosuria. Some have direct reference to the pancreatic theory, others appear to have connexion with digestive or other ferments, while of some the explanation is so elusive that they come under the banned (but useful) heading of empirical remedies. My desire has been to form an impartial opinion upon the value of the remedy in the individual case, and the conclusions must be taken merely as indicating that in that particular case certain remedies have or have not given satisfaction.

I do not propose to enumerate all the remedies that have been tried in my wards within the last few years, but to select for special mention only those where my charts indicate divergence from the observations of others, or where I have had reason to believe that benefit was directly due to the drugs. I have not found any remedy that can be considered universally applicable.

Codeine.

Codeine has been used in many cases, but in my hands the benefits, so far as sugar is concerned, have not been very obvious or constant. I do not deny that the records may sometimes have shown a certain reduction of the daily output of sugar during the time that codeine, or other derivative of opium, has been employed, and, while freely admitting that some patients appeared less troubled by thirst while taking codeine, and some were certainly less nervous and worried, I have occasionally feared that these drugs might be harmful. When the dose was increased from a third of a grain to half a grain I sometimes observed disquieting apathy and drowsiness, which led to a discontinuance of the drug. These symptoms may have been the direct result of the hypnotic influence of the codeine, or they may have been due to an arrest of the elimination of glucose, but in either case they were disquieting, as they resembled the usual forerunners of diabetic coma.

Sodium Salicylate and Sodium Bicarbonate.

My charts show that the use of sodium salicylate or of acetylsalicylic acid has given far more general satisfaction both in comparatively mild and in severe cases. When employing sodium salicylate in a case in which the glucose had been gradually reduced by dietary restrictions, we found that during the administration of the drug the glucose ultimately disappeared, and the benefit persisted even when a moderate amount of carbohydrate was allowed. For a short time any attempt to reduce the amount of salicylate while bread was being given was followed by a reappearance of glucose in the urine, but eventually it was found possible to allow two ounces of bread daily, even when the salicylate had been finally discontinued.

In collating my material I have found that I have made free use of large doses of sodium bicarbonate. This has in some cases been employed comparatively early, and it has been used to attempt to reduce the high degree of acidity which is so often present, even without any suspicion of acidosis. In my experience of hospital patients it has been extremely difficult to reduce this persistent acidity. Rarely, after very large doses, the urine has been rendered alkaline for a short time, but it has always speedily returned to a neutral or acid condition, in spite of the use of the bicarbonate.

I venture to lay some stress upon this observation, since most observers advise that, with the onset of toxic symptoms, indicated by drowsiness, severe headache, or coma, or by changes in chemical reaction showing the presence of acetone or diacetic acid, the urine should be rendered alkaline as quickly as possible. This is quite good advice, but it is not easy to obtain an alkaline reaction quickly, and it is still more difficult to maintain an alkaline or neutral condition of the urine for any length of time.

Guided by earlier experience I find that more recently I have frequently commenced medicinal treatment with a mixture of sodium salicylate and sodium bicarbonate, the quantity of bicarbonate being from twice to three times the amount of salicylate. The amount has been largely determined by the degree of acidity of the urine, or by the presence of drowsiness or other toxic symptoms.

Other Drugs.

When it has appeared that a stationary stage had been reached beyond which no further benefit seemed to result from modifications of dosage, while still continuing these remedies, I have given occasionally other drugs in turn, and have carefully noted the results. In one such case, which was under observation for many months, we were able to watch in turn the influence of codeine, takadiastase, and of trypsogen.

I have already referred to my general experience with codeine in connexion with other patients. In this particular case my chart showed that it exerted no material influence upon the output of glucose, while on the other hand the patient so often became dull and lethargic that it was deemed advisable to stop the administration.

In this case, and in others, I was similarly unable to confirm the favourable observations of others with regard to takadiastase. The reports made by Dr. E. J. G. Beardsley, of the Jefferson Medical College Hospital, were so striking that they merited investigation. He stated that takadiastase had a tendency to alleviate all the symptoms in diabetes. He said it decreased the amount of sugar for a time, but this finding was not constant. He asserted that, even while the sugar increased during the administration of the drug, the symptoms were relieved. He admitted, however, that the patients seemed more depressed for a few days following the first administration of the drug. From my observations I am inclined to agree with Dr. Beardsley so far as concerns the depression, but in my hands takadiastase has been connected with an increase of glucose, with no amelioration of other symptoms. I must admit that I have employed takadiastase in a relatively

small number of cases, and therefore only say that in these particular patients the increase of glycosuria and the absence of any tangible improvement did not warrant a continuance of the treatment, and did not appear to justify further trial upon other patients.

With regard to trypsogen, my experience has been limited to its use on two patients. On the first occasion that it was employed the amount of sugar went up when three tablets were given three times a day. The use of trypsogen was continued for 19 days, when it was thought wise to leave it off as the amount of sugar still remained high. When it was discontinued the sugar went down to the merest trace, and later, the amount of sugar having again risen, trypsogen was given three times a day, with the result that the sugar rose with a huge bound, and after eight days it was again discontinued. I may add that on each occasion the patient objected strongly to the use of the drug.

It having been stated that calcium iodide very rapidly reduced the output of sugar in many cases, where neither dieting, nor the use of codeine had had much effect, I determined to test the value of this remedy in suitable cases. It was given twice daily in 5-grain doses to one patient for nine days. Before the administration he was passing 1520 grains of glucose in 24 hours, on the fourth day he passed 2000 grains, and the amount increased to 2440 grains on the ninth day, when it was thought advisable to discontinue. In a second case the same dose was given three times a day. At the commencement 1600 grains were being passed. After a week of treatment it was found that the sugar had increased to 2120 grains. In a third case 10 grains of calcium iodide were given three times a day. This was continued for 32 days, during which time curious oscillations of the sugar curve were observed. Starting from 1920 grains it fell in four days to 1480 grains. Then it rose with an oscillating line until it had reached a level of 2560 grains in another eight days. Then in five days it fell rapidly to 840 grains, after which, with fairly wide oscillations, it steadied at an average of 1600 grains. This experience of calcium iodide is confined to three cases, but since it entailed daily estimations over a period of seven weeks it is perhaps sufficient to cast some doubt upon the value of calcium iodide, and may serve to save others from similar disappointments.

Laxatives.

The importance of checking the tendency to constipation, which so often ensues with the restricted diet or results from the use of one of the derivatives of opium, has led to the frequent employment of laxatives. In glycosuria I have found that greater benefits follow from magnesium sulphate or sodium phosphate than from the vegetable purgatives. The salines in moderate doses have been given so frequently that it has been difficult to estimate any particular influence upon the output of sugar, although they certainly tend to a reduction of the acidity of the urine, to which reference has already been made.

Within the last few years additional interest has been directed to the use of massive doses of salines for the relief of urgent symptoms, and several cases have been recorded in which large doses of Hunyadi Janos water have checked symptoms of acidosis, and have been followed by a disappearance of acetone and diacetic acid. In the cases in which I have given Hunyadi Janos in this way I have noted two interesting facts. The first is that the degree of purgation is not proportionate to the dose employed; very large doses of the water seeming to be followed by no greater purgative action than might have been anticipated from a moderate or ordinary dose. The second fact concerns the output of sugar; in my cases I have found that there is a rapid fall in the 24 hours' quantity, and that, although on subsequent days the amount speedily rises, the level attained remains for many days far below the average observed before the use of this special treatment.

My experience, therefore, may be briefly summed up by saying that I have learnt to place reliance upon the use of some preparation of salicylic acid in conjunction with the frequent use of moderate doses of saline purgatives, or with the occasional employment of large doses of salines for two or three days in succession.

RELATION BETWEEN LOSS OF SUGAR AND WEIGHT.

With regard to the information the charts afford as to the relation of the loss of sugar and the weight of the patient, we have not found it necessary to make daily records of weight, since it is well known that slight oscillations of daily records of weight are of comparatively small importance. The weight has been taken at the same time of day once a week, and, in the majority of instances, the weight has been found to improve steadily with the reduction of the daily loss of sugar. We originally drew these two figures into comparison, so as to have some more definite indication of progress than the mere statement of the patient. It is obvious that the sense of well-being, although it may be expressed with perfect sincerity, is of small value as compared with a definite increase in the body weight.

This increase has been one of the most comforting features of many of my records, since it is an increase in spite of the elimination of many of the fat-forming articles of diet, and in spite of the reasonable amount of exercise which is permitted to these patients. The increase in weight, therefore, is not comparable to the increase in weight of tuberculous patients who are being kept recumbent and who are being fed largely with fat-forming materials.

The increase in weight is occasionally very remarkable. One of my most noteworthy examples is afforded by a man who had been treated originally in the surgical wards for a tuberculous testicle. When he first came under my care his weight was only 6 st. 7 lb. It rose almost continuously until, when he left the hospital, it had reached 10 st. This patient was again admitted to hospital towards the end of last November, his weight then being just 8 st. During the time that he remained with us, a little over two months, his weight again rose to 10 st.

I have learnt from continuous observation of these charts to attach relatively little importance to small oscillations in the amount of sugar, so long as the line marking the weight shows a steady rise. The converse, unhappily, holds good. When the amount of sugar has been gradually reduced, either by diet or by drugs, if there is a rapid loss of weight, the case cannot be regarded as satisfactory, and I have felt justified in administering articles of diet which would increase the amount of sugar provided that they also caused an increase in the weight. In many chronic cases my charts confirm the common experience that it is wise to permit some

carbohydrates to maintain the weight and well-being of the patient.

In this connexion I would mention that these observations have relation only to the question of the weight and the sugar. They are not influenced by any other considerations, such as an increase in the reactions for acetone or diacetic acid, or by any symptoms of acetonæmia.

Relation between Loss of Sugar and Urea.

Having a chart on which it was possible to represent the daily amount of urea in addition to the other factors, and having many willing workers ready to assist with the daily estimations and calculations required, we have in recent years recorded the daily output of urea in all our cases of glycosuria. It was hoped that in this way we might be able to confirm from a clinical side the statement of Graham Lusk on the dextrose: nitrogen ratio, which in phloridzin diabetes, after all carbohydrates in the body, such as glycogen, have been got rid of, was placed by him as a constant ratio—viz., 3·65 : 1. It has been found convenient to express urea in terms of percentage rather than to attempt to calculate the actual amount of urea passed daily. To some extent, therefore, during the earlier phases of each of the charts it is not fair to attempt to compare the percentage, which takes no note of the quantity of liquid passed, with the figure for glucose, which is an actual amount calculated in relation to the quantity of urine eliminated. During the later stages—that is, after the case has been under observation for a fortnight—the daily amount of urine passed usually varies within a very small range, and it now becomes possible to obtain an idea of the relation which may exist between the dextrose and the nitrogenous output.

I am aware that the estimation of urea will not include all the nitrogen to be found in the urine. There are numerous other compounds of nitrogen which should, perhaps, be taken into account before attempting to draw conclusions. Urea, however, represents such a large proportion of the daily nitrogenous loss that it may be assumed that the dextrose: nitrogen ratio above mentioned should be maintained even as regards urea; in other words, it might be expected, from experimental data, that when we are dealing with a large number of daily records we should find some relation between the output of glucose and that of urea. We might anticipate that an oscillation of the dextrose line should be accompanied by a proportionate oscillation in the same direction of the urea record.

Upon this point I must confess that our expectations have not received any support. Viewed alone the urea curve has certainly shown many variations from day to day; usually these are within a very moderate range, but occasionally there is a sudden considerable rise or fall of the urea curve. We have found that this appears to have no relation to the dextrose line, which in its turn may betray similar instability without any change in the general trend of the urea curve. At present no explanation is forthcoming for these oscillations in the urea curve.

I can only state that prolonged observations have shaken my faith in the clinical value of a comparison of the dextrose urea curves. Changes in the amount of urea, so far as my experience extends, do not appear to have any clinical or practical bearing upon the course of the glycosuria or diabetes. They are probably the result of some change in the diet or of some difference in the amount of exercise, but they do not occur with sufficient regularity to throw any light upon the prognosis, and, on the other hand, they are too frequent for it to be assumed that they are due to experimental error.

The Charts and Prognosis.

The amount of patient labour entailed in the construction of the graphic records of cases of glycosuria and diabetes led me to attempt to derive the utmost information from them. Naturally in every case the prognosis is an early question, and in this it was hoped the charts might help materially. Hitherto the prognosis has been guided by numerous well-known factors—for example, the age of the patient, the specific gravity of the urine, the degree of emaciation, the occurrence of toxic symptoms like drowsiness, or that curious feature of air hunger, or the development of grave complications like carbuncles, boils, or gangrene, which so often have been regarded as leading on to a fatal termination.

Our charts helped in forming a prognosis in various ways. They showed the relative influence of dietetic and medicinal treatment, and left no doubt about the greater importance of diet.

They enabled us to test the amount of improvement resulting from various drugs, and helped us to draw conclusions which, however, had to be guarded, conclusions limited to the statement that in the particular case certain drugs had or had not given encouragement for further guidance. Our graphic records led us to speak with reserve on the prognostic value of a daily estimation of urea, and with still greater hesitation on an attempted comparison of the output of urea and of sugar. Most important information, however, was derived from the comparison of the curves showing the relation between the loss of sugar and the gain of weight. In true diabetes we learnt that a steady increase of weight, in spite of a moderate amount of sugar, had to be regarded as a favourable element in the prognosis. In the absence of toxic symptoms, anxiety was only felt when there was a rapid decrease of weight, in spite of measures taken to limit the loss of sugar. No anxiety was felt when in elderly obese individuals there was a steady loss of weight together with a rapid diminution of sugar.

We had, indeed, gone far towards feeling that our records would contribute largely to the available information for framing a prognosis, and then came a check which for the time seemed likely to upset all our confidence.

Cases with Suppuration or Gangrene.

Soon after the graphic charts were in use several patients were transferred from the surgical to the medical wards on account of glycosuria. Some began with symptoms which led us at first to fear we were dealing with advanced diabetes. The thirst, the amount of urine, the high specific gravity, and the rapid emaciation appeared to warrant a serious diagnosis. Then after an interval of treatment the symptoms improved and the serious aspect disappeared, and we had to revise our early diagnosis.

These cases all had either some form of suppuration or some form of gangrene, and the patients were sent to the medical side owing to the fear of performing operations of any magnitude while sugar was present in large quantity. Generally the gangrenous part was dressed with boric acid, or in cases of suppuration incisions were made to afford

free escape of pus. I repeat that most of these patients on admission presented every indication of severe diabetes, and yet the sequel showed that this diagnosis was not correct. The improvement of the glycosuria was too rapid and, I may add, too unexpected to be attributed either to the modified diet or to the remedies employed. The symptoms had been too grave to warrant an assumption of a dietetic glycosuria, and some other explanation had to be sought. The current theory that "with the onset of severe complications the tolerance of the carbohydrates is much increased" seemed to offer a suggestion, but it was difficult to believe that severe complications like boils, carbuncles, perforating ulcers, or gangrene could lead to a tolerance of carbohydrates which should produce not only a disappearance of sugar, but also a rapid amelioration of all symptoms commonly associated with serious glycosuria.

Since our graphic records demonstrated facts which were so unexpected, it was necessary to look more closely into the clinical features of these cases and to attempt to discover some common factor. I have selected the following brief notes to show the nature of my experience of some cases of perforating ulcer or of gangrene with glycosuria.

A woman, aged 50, was admitted complaining of bad feet and great thirst. The increased thirst had first been noticed three years before, but had passed off until a fortnight before admission. During the last two years there had been gradual loss of weight. She stated that one year ago a nail had run into her foot and caused a wound, which first healed up and later broke down again. There was a sinus near the ball of the great toe which was enlarged and dressed; later the first metatarso-phalangeal joint was excised. On admission the urine had a specific gravity of 1030, and contained much sugar (28 grains to the ounce). Under dietetic treatment the amount of sugar speedily diminished, and after the operation sugar disappeared entirely.

A second case was somewhat similar, but there was no history of injury. This patient was also a woman, aged 43. She stated that some years earlier she had had an ulcer on the right foot, which, although under treatment, had taken three years to heal. Trouble in the left foot began with an ulcer in the sole ten months before admission, and within two months three other ulcers appeared. During this time there was rapid loss of weight (from 16 st. to 10½ st.), great thirst, frequency of micturition, and marked constipation. The four ulcers were connected by deep sinuses, and there was much offensive discharge. Under stovaine the openings were enlarged, and boric fomentations were used. The healing process was slow, four months elapsing before the ulcers closed. On admission the urine contained 21 grains of sugar to the ounce. During treatment sugar was speedily reduced and was often entirely absent.

A third case showed perforating ulcer, followed by gangrene, in a man over 60 with chronic interstitial nephritis and glycosuria. There was a history of chronic alcoholic excess, and the condition was so bad that the prognosis appeared desperate. Treatment with boric fomentations, and the removal of necrosed tissues were followed by rapid improvement and a reduction of the sugar. A year later I heard that the foot had healed, and that sugar was no longer to be detected.

A still more striking example was afforded by a patient whom I saw in consultation with a surgeon about three years ago. The patient was a man, aged 53, suffering from gangrenous phimosis, and the surgeon was averse to operation owing to the presence of sugar in the urine. The history showed that during two years there had been increasing frequency of micturition and some loss of weight. Four days before the patient saw me he had been markedly drowsy and had complained of parched mouth and dry tongue. Although the specific gravity when first examined was 1040, it speedily fell after the removal of large gangrenous sloughs, and within a month it was extremely difficult to obtain any reaction for sugar. The sugar ultimately disappeared until the patient had an attack of tonsillitis, when during the high temperature sugar was again found to be present for a short time.

Relation of Glycosuria to Gangrene.

These cases led me to go through my earlier records of other forms of gangrenous conditions, and to study again the literature of this subject. I found that my own notes showed that in gangrene, and in perforating ulcer of the foot, associated with glycosuria, there has invariably been a marked diminution of sugar during the treatment of the local condition. As the improvement was more rapid and more complete than that resulting from dietetic or medicinal treatment, it seemed possible that the common factor we were seeking might be found in the removal of some hitherto unsuspected cause for the appearance of glucose. Again, it has been noted by others that with a return of gangrene there has been a fresh glycosuria. In one such case the glycosuria and gangrene have returned on three separate occasions.

During the last few years there has been an increasing distrust of the accuracy of the term *diabetic gangrene*. Many observers, surgeons, have maintained that the gangrenous change results from arterio-sclerosis with thrombosis, rather than from a primary local infection favoured by the presence of sugar in the circulation, as was formerly supposed. This view would suggest that we are really in such cases dealing with senile gangrene occurring in patients who are unfortunately suffering from diabetes, which of necessity presents a grave additional risk. While it must be admitted that in such cases the process of healing is extremely slow, I believe this may be due to defective circulation, the essential cause of the gangrene, and not to alterations in the composition of the blood associated with glycosuria. I think this view should encourage greater readiness to remove gangrenous tissues at an early stage. Operations of greater magnitude might well be reserved until the quick reduction of sugar has permitted greater liberality of diet.

Hitherto there has been, so far as I can trace, no suggestion that the glycosuria may possibly be a feature which has arisen subsequently to or concurrently with the gangrenous process. When once this idea presented itself I again went through my notes and was surprised to find how frequently patients had made mention of some suppurative process shortly before the onset of the symptoms which are definitely referable to a pronounced glycosuria. One dated his illness from an abscess in the jaw, several had mentioned dental troubles, and repeatedly came the statement of serious pyorrhœa, a statement made by clinical clerks, when there had been no thought of the possible future value of the recorded fact.

CONCLUSIONS.

We have learnt the value of early relief of pent-up pus, of early removal of gangrenous tissues, and of the adoption of measures to prevent septic absorption. Can we not go a step further and add yet another theory for glycosuria which may knit together in a new light the results of clinical observation, of physiological experiments, and of pathological investigations?

While greater influence on glycosuria is exerted by diet rather than by drugs, the remedies which have proved most efficacious, the salicylates, are those which we ordinarily credit with the power of controlling toxic processes resulting from the

growth of micro-organisms. From the experimental side glycosuria has been induced in dogs by injecting into the pancreas irritants which have produced pancreatitis or extensive sloughs. By the removal of sloughing tissues, as in carbuncles, in perforating ulcers, and in gangrene, we find clinically that glycosuria is quickly reduced. Do not these observations, collectively, warrant the suggestion that some cases of glycosuria depend upon a perversion of pancreatic secretion due to toxic absorption? If this view is correct, may it not also lead to the employment of a vaccine to counteract the toxic influence?

To return to my graphic records, if they contribute to a more sanguine view of the value of early treatment, and if they lead to a new suggestion for future workers, all concerned in the labour will be amply repaid for the trouble involved in lengthy observations carried out with no preconceived idea of the results which might be attained. My graphic records are the result of patient and cordial coöperation of the pathological department at King's College Hospital, and of many ward sisters, nurses, house physicians, and clinical clerks. To them I once more tender grateful thanks for loyal service, and to you, Sir, I venture to express my gratitude for this opportunity of giving publicity to their work.

SOME OF THE PROBLEMS OF GUNSHOT FRACTURES.

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Frequency.—It is difficult to over-estimate the importance of the timely solution of the many problems connected with gunshot fractures. The severe injuries of other kinds—e.g., penetrating wounds of the head or abdomen—are mostly fatal, and it is probable that the cases of shattered long bones constitute the largest single group of serious non-fatal wounds. And not only do these cases survive, but their after-condition will depend very largely upon the way in which the injury was treated in the first place.

Pain.—Again, there seems almost no limit to the pain which may be caused by these bone injuries, both by mobility and by sepsis. The first, and perhaps from the humanitarian point of view most pressing, question is how to treat them at each stage so as to mitigate this suffering. The pain is not only so severe, but in the femur it is of such long duration that a man may have to suffer for several weeks daily agony when his wounds are dressed. The amount of pain will depend upon the degree of the injury, upon the occurrence of sepsis, and also upon the necessity for movement. The first two factors are largely out of our control, but the last is one which is insistent for solution. The limb must be immobilised for transport and also for the constant change of dressings. It is this latter point which is so difficult to carry out efficiently.

Sepsis.—The horrors of the worst types of sepsis associated with open bone fractures are familiar to all who are attending upon the wounded. The simple pyogenic sepsis, the gas gangrene and pyæmia are of frequent occurrence, and serve not only to make the injury more difficult to treat but render it a serious menace to life and limb. And after the first danger to life is over and the limb appears to be saved, the septic complications remain for weeks and months, requiring elaborate dressings and weakening the patient by the constant drain upon his strength. A further evil of septic infection lies in the loss of tissue, especially of the bones, which it causes. A septic process energetically treated may be cut short, with but little loss to the limb; but, allowed to spread, it may destroy a large part of the bone. The treatment of these septic limbs is difficult, requiring the utmost judgment and resource. Mere drainage by the insertion of rubber tubes appears to be quite inadequate. This device, which we have learned to rely upon in the sepsis of the serous cavities or in the treatment of a localised abscess, quite fails us in a septic limb. The septic process seems to spread so readily in the loose connective tissue planes between the muscles that the mere provision of an outlet does not check it. The limb must be widely opened up, foreign bodies, such as bullets, pieces of shell, loose bone fragments, and pieces of clothing, removed, and the large wound packed with gauze after swabbing with iodine. In some cases the provision of constant irrigation at an early period will probably cut short a spreading inflammation, but in all severe cases the tissues must be opened up freely.

The problem of life or limb?—We know that by adequate means we can often save a useful limb by conservative surgery which an older generation would have immediately sacrificed. But this conservation entails a grave responsibility. For in the attempt to save the limb we may lose the life. No rule can be laid down which will avoid this danger, but one general principle must guide us. It is that the combating of sepsis must be carried out in the most energetic way from the outset; the limb must be mutilated to be saved. Large bones and joints which are the seat of septic infection must be freely exposed and no attempt made to sew up the soft parts. This will lessen the danger to life for the moment; if successful, the limb will be less mutilated by incisions than by unchecked sepsis; and if, after all, the limb has to be sacrificed the ultimate amputation is less severe.

The function of the limb.—In the urgent problem of saving the vitality of a limb certain minor points relating to the preservation of its functions must not be lost sight of. These are the restoration of the bone to its natural length and line, the preservation of the nutrition of the muscles and the mobility of the joints. I call these minor points, inasmuch as their observation must in no way interfere with the prime necessity of combating sepsis, but later they are of major importance, because they determine how much use the limb will be after it has been saved. By the observation of three principles the condition of the limb may be secured very largely in all these respects. These three principles are those of constant extension, the semi-flexed position of the joints, and the use of apparatus which does not immobilise the joints above and below the broken bone.

The use of apparatus.—The use of all kinds of splints, slings, and apparatus requires the most careful consideration. A splint may be the greatest blessing or the greatest curse, according to whether it is properly adapted and intelligently used or otherwise. For military purposes the apparatus must be of the simplest and cheapest kind possible, so that it can be quickly made by local workmen. It must be capable of adaptation to the varying

circumstances of the hospital, so that any bed can be fitted with it; and, above all, it must be adaptable to the needs of each case, so that the apparatus can be suited to the fracture and not the fracture to the apparatus. If possible, it ought not to require a long process for its application, neither ought it to need constant readjustment. I believe that the methods introduced by Florschütz, Borchgrevink, and von Saar, which were described in THE LANCET of Sept. 26th and Oct. 3rd and 10th, 1914, by Mr. J. H. Watson and Dr. T. Snowball, constitute by far the most efficient means at our disposal as yet described of carrying out these principles. Dr. von Saar was kind enough to lend me specimens of these splints, &c., for my recent Hunterian lecture,[1] and I have since put them into use and modified them to some extent. The descriptions and figures given in the article referred to will obviate the necessity of further details, and I will confine myself generally to points of principle and to an account of additions and modifications which I have used.

The rôle of extension.—No one doubts that for the treatment of fractures of an ordinary kind extension is the most important principle. But it must be borne in mind that in cases of gunshot wound with severe sepsis the treatment of the sepsis must take precedence over the restitution of the bone form. Now in extension the muscles are made taut, and close in round the bone, and the fragments of bone come to lie end to end. This hinders drainage. It is better, therefore, to recognise that there are three stages in the treatment of all these septic cases: (1) The cure of sepsis in which freedom of drainage and absence of tension are the most important factors; (2) the healing of the bone, which must be placed in good position by extension; and (3) the restoration of function to the joints and muscles by early movements. If this be accepted, then, it is wrong to adopt extension in the early stages of sepsis, or until free drainage has been assured. Not only must the wounds be enlarged, but in order to prevent the muscles falling together they ought to be incised transversely. This will secure a widely gaping wound and will lessen the overlapping of the bones. The time for extension to be begun in septic cases is when granulations appear. This indicates healing, and up to this time no bone repair occurs, and therefore it is a matter of no consequence whether the bone fragments overlap or not. Indeed, it is often the wisest thing to do to intentionally angulate the bone at the seat of fracture, so that its ends may lie superficially in the wound, and this position can easily be rectified when the tissues are clean and any dead bone has been thrown off.

Arm fractures.—Borchgrevinck's splints are excellent. That for the humerus consists in a Y and that for the forearm in an L-shaped piece of wood provided with a pulley at the distal ends; in both extension is provided for by a loop of rubber tubing. I have used instead of the latter the solid rubber doorspring which costs only 1*d.* and gives an extension up to 8 lb. But for elbow fractures it is better to use an internal angular splint with the corner cut out for drainage and a piece of wood which lies in front of the biceps as counter extension. For shattered forearms I have used a simple metal framework jointed on to an arm-piece. This allows movement at the elbow and also free rotation of the hand and free access to the wounds.

[1] THE LANCET, Feb. 14th (p. 435) and 21st (p. 513), 1914.

In the shoulder fractures the great difficulty is stiffness in a position of adduction, and to overcome this the arm ought at an early period when the wounds have cleaned to be placed above the head; at first an anæsthetic is necessary for this and later the position of extreme abduction ought to be maintained for 12 hours each day when the patient is lying in bed.

Fractures of the femur.—These cases constitute some of the most difficult and the heaviest of all the serious wounds. They cannot be easily transported, they require elaborate dressing daily or twice a day, and they take weeks or months to heal. Florschütz used the method of suspension of the leg in a semiflexed position, with a weight extension, in the Balkan war, and the method is most excellent. The leg is slung to a bar running above the bed in its length by three slings and an adhesive plaster attachment holds the extending weight. This method, however, requires some time for its application, and as it depends upon continuous extension is liable to objection in the early stages of open fractures with severe sepsis. It is far better by reason of its simplicity than the Hodgen's splint, which is only good when perfectly adjusted and strongly extended. I am sure the Hodgen's splint is quite unsuitable for cases which require constant dressing. For the transport of cases of fractured femur nothing is better than the French wire cradle, which is both firm and light and effectually prevents rolling. The long Liston splint is a very poor protection against mobility and requires to be well applied, whereas the cradle splint holds the leg by its mere shape. The most generally useful splint for open thigh and leg fractures in their early stages is, I believe, an angled trough which supports the leg in a semi-flexed position. The thigh part must either be a separate structure or else readily taken off from the leg-piece, so as to allow for dressing and irrigation. The main principle is to support the leg by a trough under the calf at a height of about 8 inches from the bed. The thigh is then prevented from sagging by another splint or by a suitable pillow. Such a device can be made quickly by any carpenter, and when made its adjustment is done in a few moments. For dressing the thigh the upper splint or pillow is removed with the minimum of disturbance. When sepsis is lessened and the granulations appear a sling extension can be substituted.

The treatment of clean leg fractures with much shortening or comminution.—If the case is clean from the outset or when active sepsis is at an end, there may be great difficulty in restoring the length and shape of the bone. For a long time it has been demonstrated that by transfixing the lower bone fragment by a stout steel rod effective and correct traction can be made which will rectify the displacement. But this necessitates four to six weeks in bed. By transfixing the upper and the lower fragments a perfect restitution of the bone can be made under an anæsthetic by means of external extension screw bars, and the patient need not be kept in bed. Until recently I believed that this could only be used for the lower leg bones where both transfixion pins can be placed parallel to one another across the bone. But now I have completed a quite simple device which extends this principle to the femur or humerus, and in which the upper transfixion pins are antero-posterior, whilst the lower runs from side to side. In the femur this upper pin goes through the base of the great trochanter and the lower through the

condyles. I will postpone a detailed description of this apparatus until I can give the results of its use.

The wrong principles of treatment of septic open fractures.—As a last word, a warning may be uttered about errors of treatment which it might be thought would never be committed, but which nevertheless are of comparatively common occurrence. 1. To sew up a gunshot wound or laceration is wrong. Such treatment will often produce the most malignant type of sepsis or gangrene. 2. To attempt to suture or plate the bones is wrong. It necessitates wide incisions and endangers life, whilst it cannot achieve its purpose. The first principle for septic bone injuries must be to open up and not to close the wounds both of the soft parts and the bones. 3. To put up limbs in plaster is unjustifiable at an early stage, when the degree of sepsis is unknown. It causes pain, a retention of septic discharges, and endangers both life and limb. In exceptional cases plaster may be justified as a means of ensuring immobilisation during transport; but then the plaster should be light, with strengthening pieces of wooden lath or zinc. It should be put on in such a way that it can quickly be cut off—e.g., by leaving strings in front and behind for the introduction of wire saws or by placing a metal strip along and below the lines of the saw cuts between the dressing and the plaster—and most important of all, there should be a peremptory note written on the plaster case saying that it is to be removed within 24 hours of such and such a time.

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THE INCIDENCE OF PLAGUE IN EUROPE,

WITH SPECIAL REFERENCE TO THE RÔLE PLAYED BY THE RAT.

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(*From the Malaria Bureau, Kuala Lumpur, F.M.S.*)

Madam Frances Pitt, writing in the *National Review*, says that plague has now no potential incidence in Europe, this not only being proved by the experience of the last centuries, but by the fact that the brown rat, which only carries a "large northern flea" incapable of feeding on man, has replaced the black rat, which, on the other hand, carries a flea an avid feeder on man.

Now in this paper it is hoped to prove also with Madam Pitt that plague has no further potential epidemic incidence in Europe, and for the same reason—to wit, that the brown rat has replaced the black. But before going any further I would venture to disagree with her induction concerning the flea. The large "northern" flea mentioned must surely be *Ceratophyllus fasciatus*, while the flea of the black rat meant is probably *Xenopsylla cheopis*, but it is a fallacy to suppose that the former bites not man—in fact, we here have found by experiment (1913) that it seems actually to be attracted to man rather than to the rat; and as for *cheopis*, which is responsible for plague in India, it is unusual to find it in northern climes—an only exceptional occurrence having been recorded from a place in London, where it was found breeding under some hot water pipes. The fleas of both species of rat in this country are identical, and if the brown rat by replacing the black has caused the disappearance of plague, it is not because the fleas which he carries are different.

We must look for other reasons to account for the disappearance of the plague. That it has been coincident with the change in the rat fauna, which is stated to have occurred in England, is certainly borne out by the experience of the last centuries, and we have as a control the fact that in seaboard towns such as Amsterdam, which still are infested by the black rat, plague does occur in outbreaks. This evidence so far certainly goes to prove that the rat factor is the cause of the change.

Now how should the brown rat make any difference to the incidence of plague if the black rat was responsible for it in former times? They are both rats, and have identical fleas. The whole answer to this question is bound up in our knowledge of the different habits of the two species. In the first place the black rat, as pointed out by the Indian Plague Commission, is a semi-domesticated species, it does not fear man, the consequence of which being that should it suffer from plague its fleas are within easy reach of man, whose rooms he inhabits. On the other hand, the brown rat is a savage, wild creature, fearing man and shunning his society; consequently, should he suffer from plague he probably distributes his fleas as far from man as he would like to be himself. He lives in the foundation of the house if he live there at all. As a matter of fact, he only lives near human habitations for a half of the year, for which reason he is just half the danger to man that he would be if he lived near him for the whole year—he hies him forth in the glad summertime to the country-side in search of food and makes his burrows in the hedgerows and fields. Another difference between the two species is that the black rat staying at home in the summer time does not fear the great centres of human population; the brown rat, on the other hand, being essentially a country-side rat, and only coming near a human habitation when he cannot get food in the fields, is therefore to be found in greater numbers in the smaller aggregations of human dwellings; he is first a farmyard rat, then a village rat, then a country-town rat, but he is not easy to find in the big towns. Consequently, should the black rat suffer from an epizootic of plague he will produce, owing to the density of the human population, a frightful epidemic, as he does now in India; and as we are told he did in England before the brown rat killed him. While, on the other hand, the brown rat living in more scantily populated districts will not cause an epidemic, other things being equal.

These hypotheses are borne out by actual facts. In India we have the semi-domesticated black rat living in the midst of a teeming population; it suffers from an epizootic of plague measuring 8 per cent., and the whole of the human population is devastated by the disease (see the Indian Plague Commission's report). In a small parish in East Anglia the brown rat was suffering from "a raging epizootic" of 11 per cent., and the human population was in that parish unaffected. The brown rat does make a difference, because he keeps away from the great centres of population. On the contrary, that *Mus decumanus* is a danger if he is living in dense centres of population is proved by the case of Shanghai. Here we are told that *M. decumanus* frequents the squalid surroundings of the native town, and is the cause of much plague.

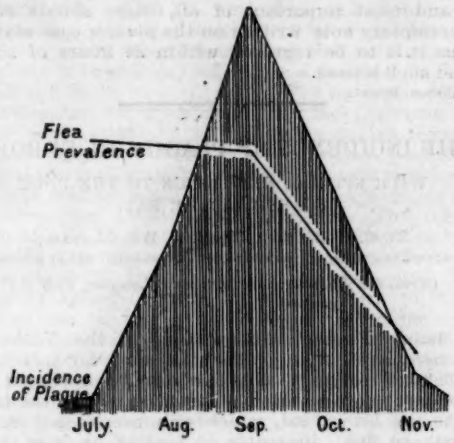
That habit of the brown rat mentioned above—that of wandering abroad in summer in search of food—has the effect, as has been said—(1) of taking him further from human beings and so lessening the chances of infection; and (2) of taking him to the midst of even less dense populations than he is near to in the winter. But it has another effect which lessens still more the chances of infection of human beings, weakening, as it does, one of the links in the chain of causation of the disease, and that is, he is less liable to suffer from plague himself. He disperses over the country-side, and with every yard which he places between himself and the focus of infection he lessens the chances of becoming infected himself by $\frac{\pi r^2}{2}$. Here, again, the factor of density of a susceptible population comes into play. We have actual figures in support of this. In a certain parish in East Anglia Martin and Rowland (1911) found an epizootic among the rats of 11 per cent. This was in the winter when the flea-rate per rat was 1. Now the flea-rate per rat in summer goes up to 4·5 (Strickland and Merriman, 1911), but the epizootic in the rat does not obtain any greater dimensions in spite of the increased flea-rate, as we would expect from the Indian Plague Commission's reports. Certainly in India the infection-rate is directly proportional to the flea-rate in the rat, but it is not so here, where the brown rat is involved. Far from it, in East Anglia the infection-rate of rats in the summer, 1911, was 30/15,000 = 0·2 per cent. So in spite of the flea-factor being 4·5/1 stronger in summer than in winter, yet the adverse factor, which we take to be the lessened density of the rat population in summer, was so powerful that the epizootic resulting was 0·2/11 or 1/55; that is, the dispersal of the rats in summer lessened their chances of infection by nearly 250 times. And if the rats' chance of infection is 250 times less in summer than in winter, the chance of human infection decreases *pari passu*.

This, therefore, is a distinct difference to the black rat. Whatever the chances of epidemics are now, they are certainly the greater in winter, and Manaud's (1911) statement that plague has a potential incidence in summer now does not seem to us correct. We think that he has overlooked the rat factor.

This fact in connexion with the brown rat seems to us to be evidence that the brown rat if it existed in Europe in the days of the great epidemics never was a factor in the causation of the disease. If it had been we would have records of winter epidemics, but we have not. The danger from plague now lies chiefly in winter, if at all, and all the more so because in a rigorous climate a few sporadic cases due to flea infection might develop into a pneumonic epidemic, as it did in Manchuria lately.

We are told that the brown rat overcame the black rat when it was imported into England after the Great Plague of London. Up to that time, then, the black rat had been solely responsible for the epidemics of plague, and the records show that it was a summer disease or coincident with the period of greatest flea prevalence, which is in summer, as Mr. Merriman and I have shown (1911). (See Chart, also Manaud, 1912.) Now we think it probable, knowing the habits of the rats, that the brown rat did not vanquish the black rat. What caused the disappearance of the black rat, we think, was better housing, and he would have disappeared whether the brown rat were in the country or no. Compare the state of affairs in Java nowadays (Swellengrebel, 1913): there the brown rat has established himself in small numbers on the coast, where are the European establishments; inland it obtains no further holding, for the native houses of bamboo and attap (thatch) are not to its liking. If indeed the brown rat *per se* has overcome the black rat, why not introduce him into Bombay or other plague-stricken centres? If he overcame the black rat once in England, what should prevent him doing it in Bombay? It was better housing which caused the disappearance of *Mus rattus*, and that should be borne in mind in localities where the black rat still persists.

To our mind, probably *M. decumanus* was in the country prior to the Great Plague of London, and as the conditions then were probably somewhat similar to Shanghai native town nowadays, it is possible that he too was responsible for some of the plague then. If he were not in the country then, it only means that the conditions which were unfavourable to the black rat were favourable to him—foundations to houses, sewers, &c., and also the planting of hedgerows which became the vogue just then, as Madam Pitt points out, owing to the scarcity of farm hands. It was not that *decumanus* vanquished *rattus*.



For prevention then it seems very important that the black rat should be eradicated, and this it seems is best done by replacing wooden structures by stone or brick ones. As for the brown rat, he will probably keep himself away from human populations in the summertime; in the winter it must be remembered that all access to food supplies must be denied to him. Paved streets and concrete basements will probably always keep him away, and are therefore an advantage. In suburbs and the outskirts of country towns, and in country villages and hamlets, ferreting and trapping should be carried out *in the winter*, and viruses may be laid then. We cannot hope to reduce the flea-rate of the rat. Baldwin-Latham proves that this is correlated with the vaporous exhalations of the ground. Strickland and Merriman found no close connexion between it and the temperature.

Conclusions.—1. The black rat was responsible for the great plagues of Europe in the past. The epidemics had a summer incidence due to the

increased flea prevalence at that season. 2. When good housing became the vogue the black rat disappeared. The brown rat did not vanquish him. 3. At the same time the brown rat increased owing to the introduction of conditions which suited him. 4. He has not proved a factor of any importance in the epidemiology of plague, because—(i.) his shyness of man takes him as far as possible from man and decreases the chances of infecting him; (ii.) his shyness takes him away from the greater centres of population, where it would be easier to start an epidemic—he is essentially a country-side rat; and (iii.) in the summer the fact that he is dispersed over the country-side in search of food lessens the probability of an epizootic among his species by, we calculate, 250 times. This fact also shows that whatever danger he creates is accentuated in the winter, which proves that he was not responsible for any of the epidemics of the past, occurring as they did in summer. It also shows us that the best and most useful time of the year to attack him is in the winter. 5. Measures directed against the black rat should be the replacement of wooden by stone structures; against the brown, no access to food-supplies, street paving and concrete basements; ferreting, trapping, and viruses in the winter; good houses instead of rows of "jerry-built" structures. In general we conclude that plague has no further potential epidemic incidence in Europe, wherever the brown rat has replaced the black

Bibliography.—Baldwin-Latham (1900): The Climatic Conditions Necessary for the Propagation of Plague, Quarterly Journal of Meteorology, Section xxxvi., 118. Indian Plague Commission (1906-1911), Journal of Hygiene, vol. vi. Manaud, A. (1912): Les Facteurs Météorologiques et Climatologiques dans l'Etiologie de la Peste, Revue d'Hygiène et de Police Sanitaire, No. 11, reviewed in Tropical Diseases Bulletin, i., 6. Martin and Rowland (1911): Reports of Local Government Board on Public Health and Medical Subjects, N.S., No. 52. Osler, Professor: Text-book of Medicine, Oxford University Press. Simpson, W. J., A Treatise on Plague, Cambridge University Press. Strickland and Merriman (1911): Observations on British Rat-Fleas, Report of Medical Officer to Local Government Board, 1911-1912.

OCULO-MOTOR PARALYSIS OF OTITIC ORIGIN.*

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INTERFERENCE with the function of the third cranial nerve may occur in one of three parts, according to the symptoms produced. Firstly, in the nuclei of origin in the grey column in front of the aqueductus cerebri and the corpora quadrigemina, together with the supranuclear portion. Secondly, in that portion which extends from the point of exit of the united bundle of fibres on the medial side of the cerebral peduncle, just in front of the pons, passing forwards between the posterior cerebral and superior cerebellar arteries to pierce the dura mater beside the posterior clinoid process; in the small triangular space between the free and attached borders of the tentorium cerebelli. Beneath the dura mater the nerve courses through the lateral wall of the cavernous sinus until it enters the orbit through the superior orbital fissure. Thirdly, from its entrance into the supra-orbital fissure and orbit, where it divides, to the terminations of its distribution. It is considered, however, that all lesions below the nuclei are peripheral, all above are cerebral. Landolt classifies all peripheral lesions as orbital (including supra-orbital fissure), basilar, and fascicular, the cerebral as subcortical and cortical.

It is with the second division, or basilar, that the otogenic lesions are intimately concerned, but it is also in this portion that the rhinogenic diseases affect the nerve trunk. It is necessary that some account must be taken of the latter, as well as the concomitant affection of the other oculo-orbital nerve trunks, in order to discuss the differential diagnosis of paralysis induced by disease of the auditory organ in the temporal bone from that originating in neighbouring parts. The number of otogenic and rhinogenic lesions of the oculo-orbital nerves which have been published is small, but of those the latter are numerous and the former rare.

It is necessary to recall the anatomical relationships of the oculo-orbital nerves to the temporal bone to appreciate the pathological changes which may affect each nerve. All the nerves are situated near the apex of the petrous portion, and well out of the way of disease limited to the organ of hearing, but extension of disease by bone or soft parts will have different results. The largest area of contact is that of the trigeminus, which lies in a depression on the anterior and superior surface of the apical region of the petrous bone. The Gasserian ganglion and the three divisions of the fifth nerve are held in position by the dura mater, which is divided and forms the cave of Meckel, the inferior portion forming the periosteal covering of the Gasserian impression, while the upper is closely connected with the tentorium cerebelli and with the dura of the cavernous sinus and the dorsum sellæ.

The next most extensive relation, appearing at the pyramid and posterior border of the pons, is the abducens, which pierces the dura mater in the posterior fossa postero-laterally to the dorsum sellæ, entering the cavernous sinus medial to the fifth nerve to reach the superior orbital fissure, on a lower level and deeper than the oculo-motor. It is in immediate proximity to the petro-occipital suture, the inferior petrosal sinus, and the apex for a distance of about 3 cm. Dorello describes a narrow cleft in which the abducens runs along with the inferior petrosal sinus, and is firmly bound down to the apex of the pyramid by connective tissue and dura as well as the petrosphenoidal ligament. The fourth nerve passes into the dura and cavernous sinus at the anterior attachment of the tentorium cerebelli, just above and to the inner side of the trigeminal nerve, but external to and above the abducens. It lies inferior also and enters some distance behind the oculo-motor.

The oculo-motor nerve is relative to the temporal bone in the second of the divisions described above—namely, the extradural portion and its continuity through the external wall of the cavernous sinus, being separated from it posteriorly by a thin membrane, whilst in front it lies in the blood stream. It is, however, the most distal relation of the oculo-orbital nerves from its superior position in the sinus. It is in this situation that it gets communicating fibres from the sympathetic plexus surrounding the internal carotid artery, which passes upwards at the apex of the petrous bone, close to the third nerve in the cavernous sinus. It also receives sensory fibres from the ophthalmic division of the fifth nerve.

Paralysis of the several ocular muscles may be

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simply classified according to groups of muscles affected as follows: (1) Unilateral partial ophthalmoplegia or paralysis of certain muscles of one eye; (2) unilateral total ophthalmoplegia or paralysis of all the muscles of one eye; (3) bilateral partial ophthalmoplegia; and (4) bilateral total ophthalmoplegia. Ophthalmoplegia may be complete or incomplete according to extent of function interfered with. Unilateral partial ophthalmoplegia is produced by paralysis of the oculo-motor nerve, and two distinct forms are found: (1) external ophthalmoplegia—the external muscles of the eyeball are alone affected, excluding the lateral rectus and superior oblique; and (2) internal ophthalmoplegia, in which the internal muscles, the sphincter of the pupil and the ciliary muscle, are paralysed.

External ophthalmoplegia is due to a lesion in the oculo-motor nucleus at its inferior portion, whereas internal ophthalmoplegia is caused by a lesion in the upper or anterior part of the column of origin of the third nerve—the most anterior nuclear group giving origin to the nerve fibres supplying the levator palpebræ superioris. Either an internal or external ophthalmoplegia may follow the other from extension of the lesion. An internal ophthalmoplegia sometimes arises from a lesion inside the orbit due to affection of the short root of the ciliary ganglion, but here is found, in addition, a paralysis of the inferior oblique muscle, and is frequently due to disease in the ethmoidal cells.

Paralysis of all the muscles supplied by the oculo-motor nerve, without other muscles being implicated, is caused by a nerve lesion before its entrance to the cavernous sinus, a distance varying from two to three centimetres, and it is usually in this position that disease of the auditory apparatus and temporal bone will attack the nerve by continuity. In the cavernous sinus it is probable that the fifth, fourth, and possibly the sixth nerves will be affected according to whether the pressure is from within the cavernous sinus due to thrombosis or aneurysm of the carotid artery or whether the pressure is on the external sinus wall. Disease of the sphenoidal cell is frequently in causal relationship with this manifestation, since the cavernous sinus and its contents are in close contact with the outer wall of the sphenoidal cavity in varying degrees, as described by Onodi.[1] In the superior orbital fissure the nerve lesion would be accompanied by damage to the other oculo-orbital nerves. In both situations there would be unilateral total ophthalmoplegia. If, however, a lesion affected all the nuclei of the oculo-motor nerve there would be two additional factors—firstly, the crossed fibres passing to the other eye would be affected; and, secondly, the fibres arising from the seventh nucleus to the orbicularis oculi, close to the origin of the fibres of the levator palpebræ, being attacked would cause paralysis of the orbicularis and absence of the usual symptom in complete oculo-motor paralysis, that of the raised eyebrow on the affected side. A further point of importance would be the presence of abducens paresis or paralysis of the opposite side (associated fibres). Slight affection of the lateral rectus and superior oblique is sometimes observed in total paralysis of the third nerve, demonstrated by the field of fixation limitation in the lateral and infero-lateral part (E. Landolt[2]).

Uhthoff has described a recurring ophthalmoplegia in neoplasm of the oculo-motor nerve trunk. Total but transitory ophthalmoplegia, with severe pain, headache, and vomiting, may affect one or other eye, and is nuclear in origin, and spoken of in France as "migraine ophtalmoplégique."

If paralysis of the oculo-motor occurs without affection of abducens and trochlear, and associated with paralysis of the opposite side of the face and body (symptom-complex of Weber), it is suggestive of a lesion on the inner side of the crus cerebri, and is generally due to syphilitic softening, but it may be due to a hæmorrhage or tubercle arising in the temporal bone or base of the skull. The more complete the paralysis of the oculo-motor nerve, the nearer the lesion is to the surface of the crus cerebri after concentration of fibres, and the greater is the lesion. If an irritative lesion exists in the crus cerebri, instead of paralysis there is limitation of the muscles supplied by the third nerve, and on the opposite side of the body contraction or tremors of the limbs, producing what is known as the Benedikt symptom-complex.

Unilateral total ophthalmoplegia can only be caused by a lesion in the orbit, the superior orbital fissure, or in the cavernous sinus. In the region of the orbital fissure it is generally syphilitic. Owing to a thin wall of the sphenoidal sinus and the possibility of dehiscences it may be due to suppuration in that cavity. In cavernous sinus thrombosis there are symptoms of venous congestion; and when there is exophthalmos with pulsation it indicates an arterio-venous aneurysm from rupture of the internal carotid into the cavernous sinus. Other causes of unilateral total ophthalmoplegia are hæmorrhage, exudations, sinus empyema, neoplasms, foreign bodies such as bullets, and thrombosis of orbital veins or veins going to the cavernous sinus from the sphenoidal cavity.

Bilateral partial or bilateral complete ophthalmoplegia are nuclear in origin or due to basal neoplasmata.

As regards the causes of oculo-motor paralysis, I shall limit the description as far as possible to those which arise directly or indirectly from disease of the auditory apparatus or temporal bone, and affecting the second division or basilar portion of the nerve. As to trauma, bullets entering the temporal bone may cause division of or direct pressure on the trunk of the third or other nerves, or indirectly may cause pressure by hæmorrhage or exudation or subsequent inflammation and suppuration in bone or meninges. Inflammation commencing in the middle ear or adnexa may spread by direct cellular continuity to the apex of the petrous portion of the temporal bone. There may be infection and direct extension of pathological processes, streptococcal or staphylococcal in origin, by continuity of tissues and by lymphatics along the vessels, especially the tympanic plexus, and nerves; hence a circumscribed meningitis may be set up and result in nerve pressure or infective toxæmia. Gradenigo was one of the first to establish this. Urbantschitsch first regarded the paralysis as reflex in origin, but this has never been proved except where disease is present in the labyrinth. Thrombosis of veins, more particularly the inferior and superior petrosal sinuses, spreading backwards to the cavernous sinus, may cause pressure on the oculo-motor nerve. The former is more likely to affect the abducens, which lies for some distance in contact with them, but thrombosis or periphlebitis may directly attack the third nerve, the specially vulnerable point of which is just before entry into the fold of dura mater split by the trigeminus and the cavernous sinus.

An illuminating case which came under my care is worthy of review because it definitely illustrates the pathological sequence and association of middle-ear disease and oculo-motor paralysis, which is the rarest form of otogenic nerve lesion.

On Nov. 22nd, 1912, I was asked to see a young lady, aged 29 years, when the following history was given. On Nov. 14th she had a sudden attack of vertigo near a hot baking stove. She was inclined to fall, but recovered herself. About 8.30 P.M. she went out of doors, but felt "useless" and returned home. About 9 P.M. she vomited and was purged. Whilst in the bathroom she had an attack of vertigo and fell; got up again, vomited again, and fell once more, striking her head, but did not know where. She thought it was the eye that had been struck when she found she could not open it. There was, however, no mark of bruise or injury. She was unconscious for 16 hours, and vomited during that time. She felt no pain in the head or eye. No vomiting occurred after recovering consciousness.

On Nov. 21st Dr. J. Gray Clegg, an ophthalmic surgeon, was called in, and I am indebted to him for his notes on the examination of the eye. He found complete paralysis of the third nerve on the right side, with ptosis. There was no proptosis and no pain in the eye, but some tenderness on pressure over the upper part of the eyeball. The external rectus and superior oblique were unaffected, the seventh nerve also. The fundus and retinal vessels were normal. He diagnosed pressure on the trunk of the third nerve behind the right orbit. He was told that she had had intermittent slight discharge from the right ear for some years, with a foul odour at times, also slight deafness on that side. There was no history of nasal discharge. The temperature was 99° F. He recommended examination by an aural surgeon.

When asked to see the patient I found her in bed. She was able to answer questions, although she was in a dazed condition. She could hear the voice in an ordinary tone each side, but no specific hearing tests were applied. The nasal cavities presented no evidence of accessory sinus disease. The left ear showed some signs of old catarrhal otitis media. The right meatus was full of brown soft cerumen and cholesteatoma. On removal of this by syringing a perforation ¼ inch in diameter was seen in the posterior superior quadrant, through which a drop of pus exuded; the remainder of the tympanic membrane was white, thick, and opaque, and the ossicles were not distinguishable. There was no pain in the ear or tenderness over the mastoid process or head. The right eye demonstrated all the classical signs of total paralysis of the oculo-motor nerve. There was ptosis of the right eyelid with very slight protrusion, divergent strabismus, with slight downward rotation, pupil moderately dilated and almost fixed; the right eyebrow was higher than the left. There was no headache or photophobia, but this was present in a slight degree some days later. The fourth, fifth, sixth, and seventh nerves were unaffected. The eyeball could be moved outwards a little further than the rest position, showing the sixth nerve to be free. There was no rotation to the normal side, and upward and downward movements were limited. The right eyebrow was slightly raised above the level of the left one. There was no ecchymosis or œdema of the lids.

On lifting the eyelid and testing the vision it was found that there was crossed diplopia. On placing an object on the axial plane necessitating turning the eyes to the extreme left, the false image was far to the left and inclined towards the affected side. When placed sagitally and below, the false image was below and to the left of the true image; when placed upwards the false image was well above the true image. There was no nystagmus. On testing the pupil reflexes the left one was found to be moderately small and contracted normally to light. The right pupil contracted very slightly, but there was no consensual reflex. Accommodation could not be tested.

From the history and the symptoms present I concluded there was pressure on the oculo-motor nerve, close to the dura mater triangular space before its entry into the cavernous sinus, and near to the apex of the petrous bone. The fourth nerve being free, the pressure was not exerted very far outwards and backwards. There was no intra-orbital pressure, and the superior orbital foramen was free, because the fourth, fifth, and sixth nerves were unaffected. It was because of the cholesteatoma found and the drop of pus on its removal that I advised an exploratory operation through the mastoid antrum. The patient was removed to a nursing home. Menstruation had commenced the day before. After admission she was still drowsy; the temperature was 100° and the pulse 76. Three grains of calomel with castor oil were given. At 6 P.M. the temperature was 101°, pulse 92. She passed a restless night, and next day the temperature was 100°, pulse 84, tension normal, no albuminuria. Nerve reflexes were normal; Kernig's sign was absent. No headache or vomiting; no change in the eye symptoms. She became more drowsy during the day and night.

Operation on Nov. 24th, 10.30 A.M. A post-aural curved incision was made. On chiselling through the dense cortex for 1/16 inch at the antral triangle, the lateral sinus was opened and the vein seen pulsating. This was situated far forwards and close to the sloping wall of the posterior border of the external bony meatus so often observed in the diploetic type of process. A second opening was made above this and the skull cavity was entered, the dura mater being observed to pulsate feebly. The bone between this and the upper and posterior wall of the meatus was extremely dense. At a depth of half an inch from the level of the mastoid cortex the antrum was reached and found to contain pus and fleshy granulations. It was very small, being about 4 millimetres in diameter. On exploration an aperture was discovered in the roof through which pus came after wiping out the cavity. This aperture was about 3 millimetres across. It was enlarged and about half a drachm of pus escaped. A track was found extending inwards for over half an inch, and the bone was removed for that distance. The dura mater did not pulsate and was greyish in appearance. As a little pus could be seen coming from the line of the superior petrosal sinus, a drain of gauze about 1½ inches long was put in. The wound was packed after excising the posterior wall of the cartilaginous meatus.

The temperature dropped to 98·6°, with pulse 92, at 2 P.M., being 99·2° and 88 respectively the same evening. There was no sickness after chloroform, and she slept well the night after operation. Next morning the temperature was 98° and pulse 80. This condition was maintained till 6 P.M. on the 28th, when the temperature reached 100° with pulse 100. She complained of a little headache during the previous night and all that day. She vomited once, at 6.45 P.M. About midnight she had a severe attack of general convulsions, lasting half an hour. There was evacuation of fæces and urine, and a very dark menstrual flow. The temperature was normal, and pulse 80 and very difficult to feel. She was unconscious during the attack, but afterwards spoke rationally on questioning her, and complained of having had a terrible dream. The right eye and cheek were slightly œdematous. The ocular symptoms were the same, and there was no vomiting. The wound was dressed. There was recent blood on the dressing and a little pus in the deep recess of the wound, but otherwise it was healthy. The sinus was pulsating. Bromidia dr. 1 was given and repeated in an hour. She vomited after the second dose, but slept well after a third dose. She slept a good deal day and night after this for several days.

On Dec. 1st the temperature rose to 101·8° and pulse 98. She complained of a little frontal headache. The wound was healthy and there was no pus. The œdema of the eyelid had almost disappeared. There was much constipation, although calomel was given every other day. Quinine and strychnina were also administered. The temperature was normal on Dec. 3rd, and with the exception of a slight rise on the 7th and 8th it remained normal afterwards. She made a slow but uninterrupted recovery.

I saw her again on Jan. 20th, 1913. She was able to get up and about the house, had recovered some of the use of the eye muscles, and the wound was almost healed. The eyelid could be half opened, and the false image was closer to the true image than before operation. I did not see her again till May 23rd, 1913, when she could walk well, but the diplopia confused her out of doors. The ptosis was hardly noticeable and the strabismus slight but discernible. On the normal side the false image was a little to the left, and present still on looking upwards. The fundus was normal. The pupil was a little larger than the left, and reacted fairly well to light and accommodation. Hearing tests: Rinne, right and left, C to C3 negative, C 4 positive. Speech, right

and left 10 ft.; whisper, right and left 9 ft. Weber's test lateralised to right. When C tuning fork was placed on the left mastoid it was heard on the right side, the sound appearing to go round the back of the head. Schwabach test C right – 5 sec., left – 3 sec. Watch, right 4 inches, left 7 inches. The right meatus was lined by healthy epithelium. Posteriorly the scar showed slight depression only. I have seen the patient at intervals up to June 29th last, and she has kept perfectly well. There is no ptosis and very slight diplopia on looking upwards only.

In this case the cause was primarily cholesteatoma, which had eroded through the tegmen antri and set up a subdural abscess. The infection worked along the superior petrosal sinus, and so to the trunk of the oculo-motor nerve. It became acute and caused the rapid development of symptoms.

Tröltsch, Ostmann and Hilgermann, cited by Onodi,[1] described similar extension to the petrous apex of purulent otitis media, affecting the oculo-motor nerve. Scotti[1] observed destruction of the Gasserian ganglion from necrosis of the apex, after separation and extrusion of a sequestrum through the external auditory meatus. Bircher[1] found oculo-motor paralysis and irritation of the fifth nerve in phlebitis of the lateral, inferior petrosal, and cavernous sinuses, which disappeared after operation. Sikkel[1] records trigeminal neuralgia due to irritation of trigeminus and Gasserian ganglion in otitis media. Jansen[1] and others have described cases of lesions of oculo-motor, together with abducens, trochlearis, and trigeminus, in phlebitis and thrombosis of temporal bone venous sinuses. Sargnon records two cases of complete oculo-motor paralysis with brain symptoms where caries existed in the temporal bone, with disease of the outer wall of the cavernous sinus.

Periodical recurrent paralyses of the third nerve have been reported by Wadsworth, Michel,[3] and others in suppurative otitis media. Michel's case recovered after a free discharge of pus. Wadsworth attributes the phenomenon to inflammatory meningeal changes in the region of the oculo-motor. Eversbusch discusses the possibility of otogenic neuritic change, or of toxic inflammation in these cases, but such a purely toxic effect upon the nerve fibres has not been proved. Toxic neuritis is described by Gerouzi, Baldenweck, Lannois, and Perretière. A recurrent paralysis of the abducens has been observed by Chierici in purulent otitis media, which recovered on free discharge of pus, but reappeared twice afterwards. Abducens paralysis of otogenic origin has been described by several observers, such as Dorello and Baldenweck, some of which remained after operation and cure of the initial lesion (Krepuska). Perkins described 100 cases of abducens paralysis, of which 25 appeared after operation, and in half the cases the Gasserian ganglion was involved. Dorello and Baldenweck point out a direct relationship between the veins of the tympanic cavity and of the inferior petrosal sinus, and of congenital dehiscences in the bone of the anterior wall of the tympanic cavity. Certain ocular reflexes have been observed from otogenic irritation, such as abducens paralysis by way of the vestibular nerve, but no record can be found of similar affection of the oculo-motor nerve.

Paralysis of the oculo-motor nerve has been recorded in temporo-sphenoidal and cerebellar otogenic brain abscess. Lombard[4] believes that when signs of intracranial abscess are present in a suppurative otitis media, if there is oculo-motor paralysis it denotes temporo-sphenoidal abscess, and abducens paralysis indicates cerebellar abscess. Tuberculous or syphilitic disease of the temporal bone may produce oculo-motor paralysis, causing direct pressure on the trunk of the nerve. Otogenic paralysis of the trochlearis has been recorded by Schwartze, De Lapersonne,[5] and others. Jacques twice observed external ophthalmoplegia follow acute otitis media in infants, accompanied by ptosis; one died with all the signs of acute meningitis.

To sum up, it appears that otogenic paralysis of the oculo-motor and other orbital nerves is clearly established, but our difficulty arises when we endeavour to establish the pathological lesion present. When paralysis exists with an ipsolateral otorrhœa, accompanied by headache and vomiting, an exploration of the auditory apparatus should be at once undertaken to determine the extent and limits of the disease, whilst at the same time it should be borne in mind that the examination of the nasal fossæ and accessory cavities may reveal the focus of disease, insomuch as nasal disease infection is far more common than aural infection in the production of paralysis of the oculo-orbital nerves.

Bibliography.—1. Onodi: The Rhinogenic and Otogenic Lesions of the Third, Fourth, Fifth, and Sixth Cranial Nerves, Journal of Laryngology, 1914. 2. Landolt, E.: Étude sur les Mouvements des Yeux, &c., Archives d'Ophtalmologie, 1881. 3. Michel: Lehrbuch der Augenheilkunde, 1890. 4. Lombard: International Medical Congress, 1908, Otologie. 5. Lapersonne: Société Française d'Ophtalmologie, 1907.

Manchester.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF HYDATID CYST OF THE KIDNEY.

BY ROBERT E. HALAHAN, M.D. DUB.,
SURGEON TO THE BRITISH HOSPITAL, BUENOS AIRES.

THE patient, a female 23 years of age, had been complaining for some months back of dragging pains in the right loin, sometimes associated with nausea. There was no tenderness on pressure, and the kidney, which was movable, could be felt quite easily. The urine was normal, and no adequate cause could be found for the pains, &c., as the movable kidney seemed hardly likely to produce as much discomfort as the patient complained of. However, I decided to fix it, and on exposing it through a lumbar incision a tumour of about the size of a small orange was found adherent to the convex border. The organ was easily delivered through the wound, and then the nature of the growth was quite obvious.

The cyst was growing on, rather than in, the kidney, extending for only a short distance within the actual kidney substance. The result was that when the tumour was laid open the base presented as a sort of small saucer, about 4 or 5 centimetres in diameter. I decided to cut this base entirely free. Having first passed a short silk ligature round the pedicle of the kidney, ready to tie in case the hæmorrhage became too profuse, a rather flat-shaped wedge of kidney was cut off the cortex in such a way as entirely to remove the base of the cyst, leaving a large open wound. The hæmorrhage was pretty severe, but was controlled by passing catgut sutures through the whole thickness of the kidney so as to embrace the floor of the wound, and tying them as tightly as the kidney

substance would allow. In this way the wound was almost completely closed. The skin wound was closed by interrupted sutures and a drainage-tube inserted down to the wound in the kidney. Beyond a urinary fistula which developed on the fifth day, and lasted for 18 days, the convalescence was uneventful, and the patient left completely healed in five weeks.

Buenos Aires.

A CASE OF INTRAUTERINE RUPTURE OF THE UMBILICAL CORD.

By HAROLD E. BLOXSOME, M.R.C.S. ENG., L.R.C.P. LOND.,

SURGEON TO FAIRFORD COTTAGE HOSPITAL; MEDICAL OFFICER AND PUBLIC VACCINATOR, CIRENCESTER AND NORTHLEACH UNIONS.

THE patient was a primipara supposed to have been pregnant ten months. When I was sent for she had been in labour for 12 hours. Per vaginam the os was nearly fully dilated, the head was presenting by the vertex, and the pains were severe, the patient describing them as being almost continuous, though there was no distress. The nurse was sure no liquor amnii had come away, but no bag of membranes could be felt. I waited an hour and a half and the os was then fully dilated, though the head had not descended much. Chloroform was given and the forceps applied. As the face swept over the perineum after a moderately hard pull the cord fell out divided in two. There was a large blood clot on each severed end. The child was large and stillborn. There was no sign of pulsation in either part. The placenta subsequently came away in a normal manner. The head had been firmly engaged in the pelvis, and I felt all round the os, so it would have been difficult to have missed a prolapsed cord.

Dr. Herbert Williamson takes the case to be one of a short cord round the child's neck delaying descent and subsequently rupturing. The rarity of such cases is my excuse for bringing it under notice.

Fairford.

NOTE ON A CASE OF CONGENITAL LARYNGEAL STRIDOR.

By J. H. SHELDON, M.B. LOND., &c.

CASES of congenital laryngeal stridor seem to be sufficiently uncommon to warrant the following notes of the first case encountered in nearly 17 years of general practice.

The patient, seen in February, 1914, was a well-nourished male Madrassee infant, 5 months of age, born prematurely in the eighth month of the mother's first pregnancy and hand-fed from birth. The infant's medical history was good and he presented no signs of syphilis or rickets. One tooth was almost through. He was bright and intelligent. The family history indicated nothing except the occurrence of asthma in the children of an aunt of the patient's father. The chief features of the case were: (1) stridor present from birth; (2) transverse furrowing of the lower chest wall; (3) certain auscultatory signs; (4) absence of cyanosis; (5) absence of laryngeal excursion; (6) a heart-rate uninfluenced by respiratory movements; and (7) the excellent health of the child. The stridor accompanied each inspiration and, with the exceptions to be given, was always present, both sleeping and waking. It disappeared for short periods (half an hour) during sleep and for shorter periods while the child lay awake quiet and with his attention fixed, and while taking the bottle. The sound produced was for the most part a hoarse and low-pitched crowing of varying loudness, but generally heard at a distance of some yards. When the child was excited the stridor became loud and shrill (high pitched). I was informed that the noise was not noticeable when the child cried. During a quiet period the shape of the chest was almost normal, though the sternum was slightly prominent and indications of a transverse lateral sulcus were seen. There was no parasternal grooving. During periods of stridor each inspiration was accompanied by great recession of the lower ribs and costal margin opposite the ensiform cartilage, and the formation of a deep transverse sulcus extending out from the costal margin almost to the anterior axillary line. The alæ nasi dilated with each inspiration. The inspiratory murmur during stridor was interrupted and subdivided sometimes into two, sometimes three separate and distinct sounds. Expiration was unaltered. There were no adventitious sounds.

Reading.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF OPHTHALMOLOGY.

Exhibition of Cases.—Cysts in the Anterior Chamber.

A MEETING of this section was held on Nov. 4th, Mr. PRIESTLEY SMITH, the President, being in the chair.

Dr. A. HUGH THOMPSON showed a young girl who had Dilated Pupil of Argyll Robertson type, with well-marked contraction on closure of lids. The condition was not congenital in her, because two years ago her pupils were normal and she had only slight myopia. The knee-jerks were normal. He also exhibited a case of One-sided Internal Ophthalmoplegia. The man was invalided two years ago on account of supposed aneurysm. No aneurysm had been found, though he was carefully examined by Sir John Broadbent.—Mr. W. C. ROCKCLIFFE spoke of two cases in his experience with mydriasis and iridocycloplegia. In one there was a strong family history of retinitis pigmentosa, but in the patient there was no retinal or pigmentary change. One patient's end was in an asylum as a general paralytic.

Mr. N. BISHOP HARMAN showed a case of Congenital Entropion. The lashes in the lower lid were permanently erect and the child was born with the condition. The meibomian glands seemed deficient. The mother was normal, but the grandmother was said to have had a double row of lashes. He proposed to split the lid, so as to separate the lashes from the glands, and graft between the two a strip of mucous membrane. If that succeeded he expected the lashes would be prevented from reaching the cornea again.—Mr. M. S. MAYOU referred to three similar cases which he had had. He operated upon them by taking out a narrow band of skin on the outer side of the lid. There had been no recurrence, though one was operated upon five years ago.

Mr. BISHOP HARMAN read notes of a case of High Myopia in an infant.

Mr. W. H. H. JESSOP showed a case of Tumour of the Lower Lid which he regarded as a lymphangioma. A former term applied to it was elephantiasis nostras. Skiagrams showed nothing abnormal about the bones, and skilled nasal investigation was negative.—Lieutenant-Colonel R. H. ELLIOT, I.M.S., mentioned a similar case which he saw in India, and which was found to be sporotrichosis ochonelia.—Mr. LESLIE J. PATON said he had seen a similar case following the extensive

scarring of lupus, and there was complete blockage of the lymphatic ducts draining the eyelid. He sent the case to a colleague with the request that he would establish a permanent drain into the lymphatics of the lip.—Mr. HARMAN reminded members of a case shown at the Laryngological Section in which draining was done into the neck, and answered fairly well.

Mr. A. W. ORMOND exhibited a doubtful case for diagnosis, which was generally regarded as inflammatory.

Mr. H. L. EASON exhibited an interesting example of Confluent Tubercle of Iris. Tuberculin had not improved it. As perforation was occurring in the ciliary region, the only course was removal of the eye. He had had a case in which perforation occurred in three weeks; in this case it commenced in the fifth week of the history.

Mr. A. H. P. DAWNAY showed a patient suffering from Intra-ocular Metastatic Carcinoma.

Mr. W. T. HOLMES SPICER read a communication entitled "Cysts in the Anterior Chamber arising from the Pars Ciliaris Retinæ," and illustrated it by a number of slides. The case had been under observation seven years; it began with a white spot at the edge of the pupil at 3 months of age. At 16 months, when first seen, there were three opaque finger-shaped masses coming into the anterior chamber from behind the iris. Four years later these had disappeared, and a cyst about 4 mm. in diameter was seen floating freely in the anterior chamber. Other cysts appeared later, and finally there were seven, floating like toy balloons in the anterior chamber. In the meantime the eye had become glaucomatous, a ciliary staphyloma had formed, and the eye was removed. The pathological examination was made by Mr. Greeves. It was found that the cysts were formed of embryonic retinal tissue containing vitreous. They had their origin in the pars ciliaris retinæ, starting from cellular membranes, which grew over the iris and also into the vitreous; the cysts grew on the surface of these membranes. There was in many places in the walls of the cysts a resemblance to glioma tissue. The case further proved the non-mesoblastic origin of the vitreous.—Mr. TREACHER COLLINS, discussing the case, said it bore out the view of embryologists that the vitreous humour was derived from neural epiblast; it further showed it was derived from only one portion of it.—Mr. MAYOU referred to a case of his own in which there was a pigmented tumour in a microphthalmic eye, consisting of epithelial cells. It only occupied an eighth of the segment of the ciliary body.—Mr. W. LANG spoke of a case he saw with Professor Fuchs in which there was a semi-translucent brownish cyst in the anterior chamber. Since then he had had a similar case of his own, but an attempt to deal operatively with it was not a success.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Exhibition of Cases and Specimens.—The Coxalgic Pelvis: its Lateral Tilting.

A MEETING of this society was held in Liverpool on Oct. 16th, Dr. J. H. WILLETT, the President, being in the chair.

Dr. W. K. WALLS (Manchester) exhibited a specimen of Double Hydrosalpinx and Tubo-ovarian Cysts removed with the body of the Uterus from a young woman, married some months, whose appendix had been removed a few years previously.

Dr. W. E. FOTHERGILL (Manchester) described a case of Double Uterus with Right Pyocolpos. This case presented great difficulties in diagnosis. The patient was a virgin, aged 22 years, with normal menstruation, who complained of pelvic pain of some days' duration and had a raised pulse and temperature. On examination two masses could be felt which, on account of the symptoms, were taken to be the uterus and a matted appendage. The abdomen was opened and the masses found to be the two halves of a double uterus, with no sign of inflammation, below which, on the right side, a fluctuant swelling could be felt. This swelling was opened from the vagina and proved to be the occluded right half of the vagina filled with pus.

Dr. J. E. GEMMELL (Liverpool) exhibited a specimen of Adenocarcinoma of the Uterus, removed from a patient, aged 52 years, who complained of pain and a slight vaginal discharge.

Dr. H. BRIGGS (Liverpool) showed: (1) A specimen of a Soft Resilient Interstitial Uterine Fibroid from a woman, aged 30 years, on which there was great difficulty in making a diagnosis between fibroid and pregnancy; (2) a Stony Hard Fibroid which was difficult to diagnose from an ovarian fibroma; and (3) a Uterus from a case of post-climacteric hæmorrhage.

Dr. W. FLETCHER SHAW (Manchester) described a case of Septic Miscarriage followed by Intestinal Obstruction. The obstruction occurred a fortnight after the miscarriage, which had been followed by sepsis, the symptoms of which had abated. An abdominal section revealed a loop of small intestine adherent to a mass of glands in the region of the sacral promontory. The loop was freed and the patient did very well for two days, when acute peritonitis supervened, for which the abdomen was again opened and drained. The patient made a good recovery. In all probability the glands were enlarged from the septic uterus.

Dr. BRIGGS read a note on the Coxalgic Pelvis: its Lateral Tilting. He described a specimen from the pathological museum which was mounted by the surgeons with the diseased side lowest. He discussed the specimen from the obstetricians' point of view, which was that the specimen should have been mounted with the diseased side highest.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 6th, Dr. David Ross being in the chair.—Dr. Philip Hamill read a paper on Obesity. He said obesity may be defined as a considerable excess of body weight over the accepted standards for normal individuals of the same height and age. The chief disadvantage of obesity lies in the increased work and strain on the heart during bodily exertion. Respiration and cardiac efficiency are hampered by a corpulent abdomen, and the obese are frequently short-winded, emphysematous, and bronchitic. They possess a lower resistance to acute infections and are unfavourable subjects for operations. Gout and vascular affections are common in obesity, and chronic interstitial nephritis frequently develops. In young subjects and adolescents obesity is not uncommonly associated with delayed puberty; the majority of these subjects became normal during the third decade. A certain number of cases of obesity appear to be associated with deficient pituitary or thyroid secretion, as in Fröhlich's syndrome, adiposis dolorosa, and myxœdema. In obesity the increase of fat is the result of an intake of food in excess of the energy requirements of the body. Very slight habitual excess will in time produce a considerable increase in fat; thus a daily excess of ½ oz. of fat, or of the nutriment represented by ½ pint of ale will account for an increase of 1 st. in weight in the course of a year. Obesity commonly manifests itself about the age of 40, at which time most persons diminish the amount of exercise taken in walking, games, &c.; at the same time, prosperity is commonly associated with a more liberal diet. Temperament is an important factor; those of a phlegmatic, restful habit put on flesh, whilst others of active disposition who constantly make small movements remain thin, for these slight differences in activity account for a considerable expenditure of energy in the course of a day. It is probable that temperament is the most important factor in heredity and racial tendencies to obesity. Steps should be taken to reduce obesity when it is excessive or when it interferes with the functions of any organ. Reduction is particularly indicated in gouty individuals, but is contraindicated in the aged and in the presence of diabetes, however mild, tuberculosis, and manifest renal disease. It should be noted that many obese individuals develop chronic interstitial nephritis, consequently in presence of raised blood pressure reduction should be gradual to avoid precipitating the onset of the disease. Rapid reduction of fat is liable to produce muscular and cardiac weakness, and should not be undertaken unless the patient is under close observation in an institution. Except in special circumstances it is always desirable to proceed slowly and to vary the patient's conditions of life as little as possible consistent with attaining the desired result. He is thus gradually educated to a rule of life, and is then less likely to relapse. The weakness and exhaustion which commonly follow rapid reduction result in diminished activity and overfeeding, with the result that the lost weight

is speedily regained. A loss of one or two pounds monthly for the first six months is ample in most cases, and for the rest of the first year half this rate of reduction suffices. In general the careful avoidance of fat, restriction of alcohol, and very slight restriction of carbohydrates will bring about the desired result. Great restriction of carbohydrates is not desirable. Walking on a gentle incline is a valuable form of exercise which can be accurately measured and which strengthens the heart. Massage is useful in anæmic patients for improving muscular tone and enabling them to take exercise without exhaustion. Special attention should be devoted to improving the tone of the abdominal muscles in order to guard against unpleasant sensations associated with the diminution of the omental fat. Cold baths are useful where applicable; thyroid is not advisable in other than myxœdematous patients; and iron and strychnine are particularly valuable in anæmic obesity.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Oct. 22nd, Mr. J. Jackson Clarke, the President, being in the chair, when a number of clinical cases were shown.—The President showed a series of four cases of Gunshot Fractures incurred in the war. One of these was a comminuted fracture of the humerus caused by a rifle bullet; the remainder were due to shrapnel.—Dr. S. Melville spoke of the difficulties met with in the localisation of bullets by X rays.—The cases were discussed by Mr. V. Z. Cope, who recounted an example of severe shrapnel wound in the forearm. Troublesome hæmorrhage had occurred some time after the injury. The bleeding points were widely distributed all over the wound. Apparently both the radial and ulnar arteries had been severed and a free anastomosis had resulted.—Dr. Leonard G. Guthrie showed a case of Congenital Syphilis of the Nervous System in a girl. The knee-jerks were absent, but there was bilateral extensor plantar response. The gait was typical neither of cerebellar nor spinal ataxy. She walked in an awkward shuffling manner, swaying the trunk from side to side, the feet everted, with a tendency to drag them. The pupils reacted neither to light nor to accommodation. There were pegged teeth and old disseminated choroiditis. The Wassermann reaction of the blood was positive. Her mental capacity was good.—Sir John Broadbent showed a case of Pulmonary Stenosis, and also one of Aortic Regurgitation and Stenosis with Mitral Stenosis.—Dr. W. H. Willcox showed cases of Temporo-sphenoidal Tumour; Rat-bite Fever in a boy, in which the symptoms were recurrent fever and erythema; Neoplasm of the Stomach, in which a large stomach tumour had arisen without previous gastric symptoms, and which was thought to be a sarcoma; and Pituitary Tumour in a man who had the usual evidences of acromegaly.—Dr. Frederick Langmead showed a case of Congenital Family Cholæmia. It was that of a man, aged 45, whose two daughters, aged 4 and 6 respectively, suffered from the same complaint. The usual features were present except increased fragility of the red blood cells. The question of splenectomy was raised.—Dr. G. de Bec Turtle showed a case of ? Patent Ductus Arteriosus in an adult. A systolic murmur was audible with greatest intensity in the pulmonary area, but not in the back. Signs of heart failure were present.

MCQUITTY MEMORIAL PRIZE.—This prize for 1914 has been awarded to Mr. A. Fullerton, M.B. The prize, which is open to students in their final year at the Royal Victoria Hospital, Belfast—the subjects being medicine, surgery, gynæcology, pathology, and ophthalmology—was founded as a memorial of the late Dr. W. B. McQuitty.

THE LATE SIR KAI HO KAI, M.B.—At a meeting of the University Lodge of Hong-Kong (No. 3666) the Worshipful Master, Dr. Francis W. Clark, made eloquent reference to the death of Sir Kai Ho Kai, C.M.G., M.B., C.M. Aberd., barrister-at-law. "One of the small band of pioneers who realised, even 30 years ago, that the future of China's greatness lay in the hands of those of his countrymen who were prepared to share the knowledge and the science of the West." Sir Kai Ho Kai was a founder of the Hong-Kong College of Medicine and one of the prime movers in the establishment of the University.

Reviews and Notices of Books.

Anoci-Association.

By GEORGE W. CRILE, M.D., Professor of Surgery, Western Reserve University, Visiting Surgeon to the Lakeside Hospital, Cleveland; and WILLIAM E. LOWER, M.D., Associate Professor of Genito-Urinary Surgery, Western Reserve University, Cleveland. Edited by AMY F. ROWLAND. Original illustrations. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 200. Price 13*s.* net.

AT a first glance the title of this monograph may to many seem somewhat strange. To those, however, who are familiar with the modern nomenclature of the receptor mechanisms of the body it presents no difficulties. All of life is filled with *noci-associations*—injurious if you will—as a result of which the stored energies of the body are constantly drained. The *noci-ceptors* are richly implanted in the skin. The object of the authors is to consider the pathology of shock in its varied aspects—traumatic, emotional, toxin and protein shock, drug shock, and the practical application of the kinetic theory of shock in the development of the *shockless operation* through anoci-association.

All successful surgery must finally be based on physiological principles. For long it was supposed that if the patient during an operation was thoroughly anæsthetised and infection avoided, the operation itself—apart from the actual traumatic intentional lesions—had but little effect on the economy. An account is given of the kinetic theory of shock and the principle of anoci-association, and the application of the kinetic theory to the technique of surgical operations is described.

Crile's physiological and surgical experiments led him to conclude that shock is "the result of exhaustion," and that one of the most vital phenomena accompanying shock is a low blood pressure and the impairment of the vaso-motor mechanism. Shock is most conspicuously diminished by morphine administered hypodermically and by local and regional anæsthesia. Careful handling, sharp dissection, and minimum trauma are also very effective in preventing shock. The preventive technique of shock—i.e., all the measures and methods available—is grouped under the term anoci-association. The ideal treatment for surgical shock is the direct transfusion of blood, but of course for the human subject this is not always available. Further researches showed that the brain cells, the suprarenals, and the liver give an excellent index to the degree of shock, whether from trauma, drugs, toxins, or anaphylactic and foreign proteins, and that these stimuli do not cause histological changes in any other organs. Very instructive and striking histological coloured illustrations are given to show the changes in the cells of the organs mentioned. Each shock-producing agency at first causes in the brain cells a hyperchromatic stage followed by a hypochromatic stage. Heavy morphine doses produce no especial changes in the organs mentioned. These changes do not appear to be due primarily to products of pathological metabolism or to altered gases in the blood, though these are secondary factors. Nor are the changes in the brain cells due to the inhalation anæsthetic *per se*, yet their extent is to a considerable degree determined by the anæsthetic which is used in a surgical operation. All these changes are less marked under nitrous-oxide-oxygen than under ether; the inference from the teaching

is that the former should be the inhalation anæsthetic of choice.

The degree of shock is dependent upon the part of the body injured, and varies with the type of trauma inflicted. The severely depressing effects of stimulation of the distance ceptors, and the emotions, especially fear, are fully expounded. As to the treatment of shock, two important points must be borne in mind: (1) the prevention of further shock by the amelioration or elimination of conditions which produce it; and (2) the support of the circulation. The indications are:—Check hæmorrhage, blunt the susceptibilities, and quiet apprehension. Morphine for this purpose is "the surgeon's sheet-anchor." To mitigate the pre-operative dread and to facilitate the induction of anæsthesia, a solacing dose of morphine (1/6th gr.) and scopolamine (1/150th gr.) is given before the operation. In the choice of an anæsthetic, as the patient is the first consideration, every division of a sensitive tissue is preceded by the injection of novocain in 1 in 400 solution. To minimise post-operative discomfort, especially in abdominal operations, quinine and urea hydrochloride in a 1/6 to 1/2 per cent. solution is injected *at a distance* from the wound. There should be gentle manipulation and sharp dissection, and tissue trauma should be as slight as possible. Local anæsthesia is of the greatest importance. Most illuminating and thoroughly practical descriptions are given of the requisite anoci-associations in abdominal operations, operations on the gall-bladder, stomach, intestines, bladder (in this case the mucosa is anæsthetised by an injection of 5 per cent. solution of alypin), uterus, perineum, rectum, and kidney. Benign and malignant tumours are considered and the special conditions arising in Graves's disease and cerebral surgery. One chapter is devoted to the technique of administering nitrous-oxide-oxygen.

This suggestive monograph, which marks a most important advance in surgical technique, should be in the hands of every surgeon, and its principles should be tested in their application to different surgical operations. We congratulate Professor Crile and his coadjutors on their work.

A Text-book of the Practice of Medicine.

By JAMES M. ANDERS, M.D., Ph.D. Eleventh edition, illustrated. London and Philadelphia: W. B. Saunders Company. 1913. Pp. 1335. Price 24*s.* net.

The Practice of Medicine.

By JAMES TYSON, M.D., LL.D., and M. HOWARD FUSSELL, M.D. Sixth edition. With 6 plates and 179 illustrations. Philadelphia: P. Blakiston's Son and Co. 1914. Pp. 1211.

Modern Surgery, General and Operative.

By JOHN CHALMERS DACOSTA, M.D., LL.D., Samuel D. Gross Professor of Surgery, Jefferson Medical College, Philadelphia. Seventh edition, revised, enlarged, and reset. With 1085 illustrations, some of them in colours. London and Philadelphia: W. B. Saunders Company. 1914. Pp. 1515. Price 25*s.* net.

THE ideal text-book of medicine has yet to be written. There are many books which treat of diseases in a systemic manner, and partition off, under definite headings, the various diseased states that are met with; but although these may be of use to the student who has to acquire a comprehensive survey of the whole field of medical practice, they fail to be of use to the practitioner who, at an early date, has forced upon him the fact that diseased states rarely conform to type.

We are inclined to think that modern text-books of medicine approach more and more to dictionaries rather than text-books, dictionaries which must perforce throw the greatest strain on the memory of the student, whereas we are almost sure that the thinking student and the observant practitioner would be better served by text-books in which the subjects were treated on broader lines, and, in fact, in which general principles were brought into play, so that they would have constantly put before them disease as the disturbance of physiological and anatomical states.

The two books on medicine before us are of the old type in which the diseases are systematised and in which no attempt at continuity of ideas is made. Both have run through many editions, so that little need be said in the way of review. Both have been favourably received by us on previous occasions, and in so far as they go we can only say again that they fulfil the object of the writers. They have been brought up to date by the addition of much recent work on medicine in all parts of the world. Professor Anders's book is perhaps a little fuller than the joint work of Dr. Tyson and Dr. Howard Fussell. He has added considerably to his useful tables of differential diagnosis, and gives many prescriptions which he has personally tried and found satisfactory. Both books will prove of great value and keep up their reputation for being standard text-books on medicine. And their limitations are those of all text-books that are written by individuals who cannot be personally responsible for the views on all the aspects of so illimitable a subject. There must be present in such works opinions on many subjects which are handed down from text-book to text-book; no isolated author feels brave enough to break the entail or to open up new ground. For instance, the erroneous idea of the etiological relationship between alcohol and hepatic cirrhosis should not appear without criticism. The important part played by B. coli and its allies in the production of disease and the interesting question of streptotrichoses deserve fuller treatment than they obtain. But it is easier to criticise than actually to suggest how a perfect medical text-book should be written, and we merely express the general feeling that text-books of medicine have their necessary limitations, which are sometimes unfortunate. But concerning these two special works under review, we can only repeat that they are exceedingly good examples of their type, and we reiterate the favourable opinions we expressed in our reviews of the earlier editions.

There is little fresh to say about the seventh edition of such a work as the text-book of modern surgery by Dr. DaCosta. The preceding editions were good and this issue is thoroughly representative of present-day surgery. But the more concrete nature of surgical teaching seems to remove the surgical text-book from some of the drawbacks which characterise the medical text-book.

In his preface the author explains the great difficulty of a writer of a text-book: he has to decide whether "an alleged discovery is a fragment of eternal truth or a nebulous emanation of chaos," and on the judgment of the author in this respect depends in great degree the real character of the book. The author appears to us to view surgery with an open mind, so that he has been able to decide wisely between the rival claims of recent additions to the science, and the whole work may be taken to represent the present state of surgery; yet he has found it possible to keep the book within a reasonable size.

There is another point which deserves mention; he has endeavoured to give the authority for every important statement, and when possible to use the author's words, believing that an author's description of his own work must be better than any description that could be written for him. These numerous references must prove very useful to the reader who wishes to investigate any subject more fully, and we agree that as a rule an author can describe his own work best, though the rule is not without exceptions, for a surgeon may have the power of devising a method and yet not possess the ability to describe the method so clearly that others may grasp it readily.

The work is probably the best general text-book of surgery emanating from the United States of America.

Practical Therapeutics, Including Materia Medica and Prescription Writing.

By DANIEL M. HOYT, M.D., Assistant Physician to the Philadelphia General Hospital. Second edition. London: H. Kimpton. 1914. Pp. 426. Price 21*s.* net.

THIS book is mostly headlines and spaces, with the baldest information under the headings. Under each drug is given a section on physiological action, one on the different preparations of that drug, and another on its therapeutic application; but no one would gather from this volume that opium was a more important drug than, say, camphor, or that the state of the pupils in opium poisoning was of any more importance than in poisoning by other drugs.

The volume is full of minor mistakes. It is true that in the United States a fluid pint contains only 16 ounces, but in a book intended apparently for use in this country the difference between the United States and the British measures should be made clear. The author makes much of the rules for prescribing, but his prescriptions show none of the meticulous care which specimen prescriptions in an elementary text-book should undoubtedly display. In teaching a student to prescribe he should be told to specify whether the ingredients of a prescription are to constitute a draught, a lotion, or a gargle, &c., and to send out a box of suppositories labelled "One at night," as the author's instruction runs, might with ignorant patients lead them to appreciate the flavour of oil of theobroma.

In a book of this elementary character the photographs of tracings of physiological experiments are quite out of place, excellent as they are in themselves, while the picture of a cardiographic apparatus on p. 32 shows nothing which would be comprehensible to one who had never seen such an apparatus. The best chapter is that on proprietary medicines and meat juices. Here the author writes with courage and knowledge.

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1. *Bakteriologische Untersuchungen der Genitalsecrete der nichtschwangeren und nichtpuerperalen Frauen, &c.*

By Dr. MAUNU AF HEURLIN. Pp. 226. Price 12 marks.

2. *Bakteriologische Untersuchungen des Keimgehaltes im Genitalcanale der fiebernden Wöchnerinnen, &c.*

By Dr. MAUNU AF HEURLIN. Berlin: S. Karger. 1914. Pp. 616. Price 12 marks.

THESE two monographs by Dr. Heurlin embody the results of prolonged and painstaking researches into the bacterial flora of the female genital passages and the reaction of the vaginal secretion. The conclusions arrived at, briefly summarised, are that the vaginal secretion in young children is alkaline in reaction to litmus, but becomes acid about the time of puberty, and remains so in healthy subjects till the involution of the genital apparatus in advancing age, when it once more is alkaline. A temporary change to alkalinity may occur during the puerperium and last till the cessation of the lochia, and in disease, especially gonorrhœa, an alkaline condition is often present. On the other hand, the secretion of the cervix uteri is normally alkaline throughout life. The bacteria present in the vagina are originally derived from the intestine, and the type of flora encountered varies with the condition of the vaginal secretion. In young children Gram-positive cocci and facultative anaerobic streptococci predominate. With the acid secretion of healthy adult life the organisms found in greatest numbers are the different kinds of vaginal bacilli, of which the author distinguishes six varieties. He classifies the conditions of the vagina into four degrees of cleanliness according to the bacteria present, the least contaminated or first class showing a prevalence of vaginal bacilli in practically pure culture, the second class a mixture of these bacilli with comma variabile, the third the coexistence of the latter organism with streptococcus anaerobius carduus, and the fourth, or most contaminated, class presenting only this streptococcus and other anaerobic cocci, with few or no bacilli or commas. This last class comprises chiefly old women and young children in whom the alkaline secretion facilitates the growth of such organisms. The vaginal secretion of a healthy woman contains few leucocytes, but these cells increase in cases of abnormal uterine positions. Some of the anaerobic organisms found in the healthy vagina are identical with those found in febrile patients after parturition and are responsible for the pyrexial disturbance, gaining an opportunity for rapid multiplication at this time. Streptococcus pyogenes is not often, in the author's experience, responsible for this rise of temperature, nor has retention of membrane or rupture of the perineum any very constant connexion with the occurrence of a febrile state after labour.

A Manual of Dental Anatomy (Human and Comparative).

By CHARLES S. TOMES, LL.D., F.R.S., F.R.C.S. Eng. Seventh edition. With 299 illustrations. Edited by H. W. MARETT TIMS, M.A. Cantab., M.D. Edin., and A. HOPEWELL-SMITH, M.R.C.S. Eng., L.R.C.P. Lond., L.D.S. Eng. London: J. and A. Churchill. 1914. Pp. 616. Price 15*s.*

THE seventh edition of this well-known text-book has been brought out under the joint editorship of Dr. Marett Tims and Mr. Hopewell-Smith, and we may at the outset say that the editors have carried out their task in a most admirable manner. Tomes's "Dental Anatomy" is not only the recognised text-book for dental students, but it is also freely used by the student of general zoology. The requirements of these two classes of students are somewhat divergent, and with a view of meeting these requirements the editors have divided the book into two parts. The facts dealt with in Part I. are those more immediately demanding the attention of the dental student, while those in Part II. are of great importance to the student of comparative anatomy.

The account given of the dental tissues is admirable, and the various views on debatable

points are placed before the readers in a clear and well-balanced way. Reference is made to the analysis of enamel carried out by Mr. Lovatt Evans, which shows that dried human enamel contains organic matter probably to the amount of 1 to 2 per cent. The chapter devoted to the naked-eye anatomy of the teeth still leaves much to be desired. It may be hoped that in future editions a fuller description and one better illustrated will be given.

Professor Fawcett's recent work on the development of the maxilla and mandible in man is clearly described, and several illustrations have been added to assist the description given in the text. In the part of the book devoted to comparative odontology the order in which the different groups are discussed has been brought into line with modern ideas. A welcome account is given of the teeth of prehistoric man, and as bearing upon this question we think it would be useful to extend the descriptions of the teeth of anthropoid apes and the monkeys. To each chapter a list of references has been added.

Technik der speziellen klinischen Untersuchungsmethoden.

By 12 writers. Edited by Professor Dr. T. BRUGSCH and Professor Dr. A. SCHITTENHELM. Part II. Berlin and Vienna: Urban und Schwarzenberg. 1914. Pp. xvi. + 523–1078. With 115 figures in the text, one coloured plate, and one table. Price, paper, 36 marks; bound 40 marks.

THE first part of this large text-book was reviewed in THE LANCET of May 23rd last. The second part is subdivided into six sections. In the first of these are considered the various methods of investigating the metabolism of human beings; in the second section a large number of special chemical methods—quantitative, qualitative, and biochemical—are described. The third section is devoted to various experimental methods used in the investigation of the many ferments or enzymes met with in the body. Next comes a brief account of the functional examination of the vegetative nervous system, and after that an exposition of the chief physico-chemical methods that are of service in medicine; an admirable account of colloid chemistry is given here, erring, perhaps, on the side of excessive brevity. Ten pages at the end of the text are devoted to bodily measurements and their normal figures, and the book ends with a satisfactory index. The editors are to be congratulated on the success with which they have laboured to produce a technical laboratory manual of reasonable size. It contains directions for the performance of tests and analyses in the greatest variety; the experimental methods are described briefly, and many of the directions and manipulations could only be understood and carried out by experts in the use of physical or chemical apparatus, but references to the literature are given and should suffice to fill in any lacunæ. One may sometimes be in doubt as to the value, in any clinical sense, of the results furnished by the tests or analyses described. Thus the importance of estimating the quantity of peroxidase in animal extracts or substances, or of measuring the viscosity of the blood, or of titrating the amount of trimethylamine in the urine, may not be immediately apparent to the physician, possibly because he lacks experience. But for those who have to carry out these and many other examinations of normal or pathological excretions and tissues, Brugsch and Schittenhelm's volumes are indispensable.

LIBRARY TABLE.

Studies from the Rockefeller Institute for Medical Research. Reprints. Volume XVIII. New York: The Rockefeller Institute. 1914. Pp. 596.—The contents of this volume consist of 27 papers on pathology and bacteriology, 4 papers on physiology and pharmacology, 5 papers on chemistry, 4 papers on experimental surgery, 9 papers on experimental biology, and 11 papers from the Hospital of the Rockefeller Institute. The first paper, the Huxley lecture, by Simon Flexner, on Some Problems in Infection and its Control, was published in THE LANCET of Nov. 9th, 1912. The greater portion of the remaining papers are from the *Journal of Experimental Medicine*, though several American and German medical, zoological, and other scientific journals are represented. We mention only a few of the subjects and select those bearing more especially on the practice of medicine. Peyton Rous, James B. Murphy, and W. H. Tytler, and Rous and Murphy later, treat of a filterable agent as a cause of osteochondrosarcoma; F. G. Novy, W. A. Perkins, and R. Chambers, of immunisation by Trypanosoma lewisi; Mary E. Morse, of complement fixation and the diphtheria group of organisms. The spleen and hæmolytic jaundice forms the subject of papers by R. M. Pearce, J. H. Austin, and J. H. Musser, jun., by H. T. Karsner and R. M. Pearce, and by R. M. Pearce and J. H. Austin. H. Noguchi has cultivated a new species, Treponema calligyrum, from human condylomata, and has studied spirochæta pallida in the central nervous system in progressive paralysis and tabes dorsalis. He also writes (with J. W. Moore) on Treponema pallidum in the brain in general paralysis. Poliomyelitis is the subject of studies by C. W. Howard and P. F. Clark (insect transmission), S. Flexner, P. F. Clark and F. R. Fraser (passive human carriage), and S. Flexner and H. Noguchi (cultivation of virus). S. Flexner gives the results in 1300 cases of serum treatment in epidemic meningitis. E. E. Butterfield and F. W. Peabody consider the action of the pneumococcus on blood, and Martha Wollstein and S. J. Meltzer the production of pneumonic lesions by intrabronchial insufflation of non-virulent pneumococci and the reaction of the lungs to intrabronchial insufflation of killed virulent pneumococci and of plain sterile bouillon. S. J. Meltzer gives simple devices for emergency artificial respiration. Alexis Carrel studies visceral organisms. F. H. McCrudden and H. L. Fales study infantilism with special reference to nitrogenous compounds and excessive calcium excretion in the fæces, intestinal absorption, and the cause of failure to develop (four papers). Francis W. Peabody studies inorganic metabolism in pneumonia. H. F. Swift reports absorption of arsenic following intramuscular injections of salvarsan and neosalvarsan. The various papers are reprinted in series and consecutively numbered, and there is a good index.

Photography in Colours: A Text-book for Amateurs and Students of Physics, with a Chapter on Kinematography in the Colours of Nature. By GEORGE LINDSAY JOHNSON, M.A., M.D., B.S. Cantab., F.R.C.S. Eng. With 13 full-page plates (5 in colour) and numerous illustrations in the text. London: George Routledge and Sons, Limited; New York: E. P. Dutton and Co. 1914. Pp. 243. Price 3s. 6*d.* net.—The first edition of this book was reviewed in THE LANCET of Feb. 18th, 1911. The second edition has been enlarged from 143 to 243 pages,

largely by amplification of the descriptions of colour processes other than single-plate colour photography. A chapter has been added on the "uto-colour" process of printing in colour direct from colour photographs. The chapter on the nature of light, colour, and shadows deals, perforce inadequately in 28 pages, with such abstruse subjects as the wave and electro-magnetic theories of light, shadows, the colour of the sky, and so on. The book will be useful to those who wish to obtain an idea of the principles of colour photography and as an introduction to the practical application of the art.

Psychiatrische Vorträge für Aerzte, Erzieher, und Eltern. Dritte Serie. Von Professor Dr. G. ANTON, Direktor der Klinik für Nerven- und Geisteskranke in Halle. Berlin: S. Karger. 1914. Pp. 91. Price 2.40 marks.—Professor Anton continues his series of essays on psychiatrical subjects, intended for parents and teachers as well as for physicians. On this occasion we feel that the majority of the essays are concerned with such technical matters and couched in such technical language as surely to fail to appeal much to the former divisions of his audience. The paper on return of function in disease of the brain and cord is interesting and instructive. It deals with the question of the vicarious functioning of one part of the brain for another, the whole matter of compensation, and the relation between development and function; it will repay perusal in the original. Another essay is entitled "Gehirnbau und Seelenkunde," and is concerned with the interrelation of cerebral structure and psychical function. The facts of cerebral pathology are utilised to exemplify the changes in the psyche consecutive to lesions in various of the lobes of the cerebrum. An article on the inner associations between thinking and speaking is also worth notice. Other papers are entitled "Gefährliche Menschentypen" and "Geistige Artung und Rechte der Frauen." In the latter Professor Anton states that physically and psychically woman is of a different type from man; her organism has different limits and obeys different laws, but he declares that the champions of the women's movement have overridden the limits imposed by nature.

A Short Handbook of Cosmetics, by Dr. MAX JOSEPH, of Berlin (London: Heinemann. 1914. Pp. 97. Price 2*s.* 6*d.* net), has reached its second English edition. This little volume deals with those conditions which as a rule come under the notice of the dermatologist rather than of the general practitioner. It contains answers to questions frequently put by the public, and if the doctor considers these subjects beneath the dignity of science, the patient will seek the advice of less competent and unqualified practitioners. In the right hands Dr. Joseph's book should prove exceedingly useful.

JOURNALS AND MAGAZINES.

The Quarterly Journal of Medicine. Edited by WILLIAM OSLER, J. ROSE BRADFORD, R. HUTCHISON, A. E. GARROD, H. D. ROLLESTON, and W. HALE WHITE. Vol. VIII., No. 29. October, 1914. Oxford: at the Clarendon Press. London, Edinburgh, New York, Toronto, and Melbourne: Humphrey Milford. Subscription 25*s.* per annum; single numbers 8*s.* 6*d.* net each.—The contents of this number are: 1. A Clinical and Pathological Study of the Heart in Diphtheria, by William E. Hume and S. J. Clegg. The forms of arrhythmia observed in cases of diphtheria have been submitted to systematic study with the polygraph and some interesting results have been obtained. It is asserted that any form of arrhythmia except sinus arrhythmia occurring in diphtheria indicates that the heart muscle or its nerves are involved in a pathological process, and it is urged that special precautions are necessary to keep the patient recumbent. The paper is illustrated by two interesting plates. 2. The Effects of Anæmia upon the Pathological Processes Occurring in Acute Ulcer of the Stomach, by C. Bolton. From clinical and experimental observations it would appear that the anæmia induced by direct loss of blood has no influence as an isolated factor in facilitating the production of a gastric ulcer and none in causing its extension, nor does it prevent its healing. Two interesting plates accompany this paper. 3. Conduction in the Auricles, by A. E. Naish. A case of acute heart block is recorded with tracings which seem to admit only of the explanation that the cardiac impulse spreads to the ventricle and to the auricle by different paths, and does not pass to the ventricle through the auricle as hitherto supposed. 4. Observations on Inspiratory Diminution of the Pulse (Pulsus Paradoxus), by A. W. Falconer and James M. McQueen. Some interesting observations are recorded upon two healthy adult males who presented this condition. The authors bring forward evidence which tends to show that this alteration of the pulse in their cases followed on oval deformation of the third part of the subclavian artery due to muscular action involved in putting back the shoulders. They review the opinions which have been expressed as to the explanation of this condition when it occurs in other than healthy subjects, in which the one common factor appears to be an embarrassment of the circulation, and they suggest that the normal inspiratory diminution of blood pressure exaggerated by an abnormally low blood pressure is a sufficient explanation. 5. Pathological Changes in the Adrenal Glands, by T. R. Elliott. As a result of a large series of observations it is stated that there is no proof that the store of adrenalin in the medulla of the glands is increased in any disease. It is lessened in many infective diseases, and markedly so in cases of afebrile acute cardiac failure associated with mental distress in the struggle to live. The lipoid of the cortex is stored and lost under conditions entirely different from those which govern the other fats of the body. It does not disappear in emaciation but vanishes with great rapidity in acute febrile affections. Three good coloured plates are attached to this paper. 6. The Tonicity of the Abdominal Muscles in Enteric Fever, by Adam Patrick. Observations were made on the state of the abdominal muscles in a series of 55 male cases admitted to hospital with enteric fever. More or less generalised superficial resistance was found in 19 cases at some stage of the disease, usually early. Resistance was observed in a horizontal band in 14 cases. In 11 of these 33 cases there was no resistance in the right hypochondrium, but this was observed in 32 of the whole series of cases. It is suggested that the superficial resistance is connected in some way with the ulceration of the intestine.

The Indian Journal of Medical Research. Vol. II., No. 1. —This is an exceptionally interesting and instructive number of the journal, which at all times contains material of the highest scientific and practical value contributed by the officers of the Indian Medical Service. The issue before us comprises 16 original articles, and extends to more than 400 pages of printed matter, along with some 60 plates, many of which are coloured. In a short preliminary editorial the fact is mentioned, among other things, that Dr. R. Row, of Bombay, has succeeded in obtaining a culture of Leishmania donovani from the peripheral blood of a kala-azar patient.—Major E. D. W. Greig, I.M.S., who has been on special duty in connexion with the recent official cholera inquiry, furnishes two articles, the first of which deals with the invasion of the tissues by the cholera organism, with further observations on pneumonia in cholera cases. It gives details of the complete bacteriological examination of the organs of some patients made shortly after death had occurred. In the second paper, which is illustrated by a number of plates, Major Greig describes the lesions of the gall-bladder and biliary passages in cholera, giving a bacteriological, histological, and experimental study of the subject. In discussing the mode of entry of the cholera bacillus into the biliary tracts he states that this probably occurs in more ways than one. In some instances it enters from the intestinal tract, and the fact that the lesions have been traced to the point of entrance of the common bile duct into the duodenum seems to indicate this possibility. It has been shown, too, that

the comma bacillus passes from the intestinal canal to the lymphatic glands and thence is distributed to the various organs. The cholera vibrios may also reach the liver and bile through the lymph channels. Up to the present Major Greig has not been able to cultivate the cholera organism from the circulating blood during life, so that it appears that the lymph channel plays a more important part than the blood stream in the distribution of the vibrios in cholera cases. Major Greig's study goes some way to supply a scientific explanation of the mechanism of the production of cholera carriers.—Captain Hugh W. Acton and Captain R. Knowles, directors of the Pasteur Institute of India, have been engaged in testing experimentally the efficacy of a number of remedies against snake bites, and in a contribution entitled "Studies on the Treatment of Snake Bite," divided into three parts and extending to 100 pages of the journal, they discuss the relative virulence of various snake venoms. The common cobra is regarded by them as the most poisonous snake in India. The value of certain remedial measures is considered, such as ligature, artificial respiration, compression of the bitten limb, excision of the bitten area, amputation, &c. The relative value of well-known local remedies is also discussed, including potassium permanganate, iodine trichloride, and gold chloride.—In another article dealing with this subject Surgeon-General W. B. Bannerman reports on the treatment of snake bite with potassium permanganate, giving details of a series of animal experiments.—Two papers are contributed by Major R. McCarrison on the subject of goitre,[1] the first relating to the pathogenesis of experimentally produced goitre and the second describing some experimental researches on the etiology of the endemic form of the disease. Both of these articles are illustrated by numerous plates. The same investigator adds a contribution to the study of experimental beri-beri.—Major S. P. James gives an interesting summary of a year's mosquito work in Colombo, and Captain Clifford A. Gill, chief malarial medical officer in the Punjab, describes an epidemic of fulminant malaria, together with a preliminary study of the part played by immunity in malaria.—Major A. C. McGilchrist furnishes the first part of a report on the Cinchona Derivatives Inquiry, showing the results of experiments with cinchonidine, quinine, cinchonine, and quinidine. In a second communication the same expert describes some further experiments on animals with other derivatives of cinchona, including ethyl-hydro-cupreine-hydrochloride, hydro-quinine-hydrochloride, and quinine hydrochloride.—The occurrence of stegomyia maculosa in Madras, together with some observations on its habits, is the title of a contribution by Captain W. S. Patton, who also supplies a short article on the behaviour of the parasite of Indian kala-azar in the dog-flea, ctenocephalus felis (Bouché), with some remarks on canine kala-azar and its relation to the human disease.—The classification of bacteria for the purposes of water analysis is discussed by Major J. W. Cornwall, of the Pasteur Institute of Southern India, and Major F. Percival Mackie gives a note on the parasite of bat malaria; he also furnishes a paper on a flagellate infection of sand-flies. The bursate nematodes from the Indian elephant are described, with many illustrative plates, by Major Clayton Lane. From this brief summary it will be seen that the contents of this number are particularly interesting.

ASYLUM REPORTS.

Kingseat Mental Hospital, Aberdeen (Annual Report for the Year 1913).—The total number of cases under treatment during the year was 592, the average daily number being 467. The direct admissions amounted to 110. Among the predisposing causes of insanity it was ascertained that 30 were hereditarily predisposed to nervous or mental affections, and that 22 had suffered from one or more previous attacks. The discharges during the year numbered 50, with a percentage of 27·2 of recoveries on the total admissions. This recovery rate was 10 per cent. lower than last year, and the decrease was due to the large number of incurable cases admitted. The majority of the patients discharged recovered suffered from the various forms of manic-depressive insanity. The deaths numbered 66, an increase of 12 over last year. Twenty-one of the patients who died were over 70 years of age. The chief causes of death were valvular disease of the heart, general paralysis, senile asthenia and exhaustion following attacks of manic-depressive insanity. There is at present no patient confined to bed with pulmonary tuberculosis, and no patient with that disease in an acute form. Dr. H. de M. Alexander, the medical superintendent, remarks that the adoption of the new villa type of asylum gives increased facilities for granting parole, and that this is its most valuable asset. Some patients who were discontented and perpetually railing against the supposed illegality of their detention have, on being granted parole, become contented and loyally disposed towards those whom previously they regarded with feelings of distrust and antagonism.

Northumberland County Lunatic Asylum, Morpeth (Annual Report for the Year 1913).—The total number of cases under treatment during the year was 1028, the average daily number on the register being 793. The number of direct admissions was 233 and of discharges 116. The recovery rate was 34·78 per cent. calculated on the total admissions. The deaths amounted to 111, making a percentage on the average number resident of 11·58 for the males and 17·42 for the females. This rate, especially for the women, must be regarded as high. Of the 111 deaths, 15 are attributed to general paralysis, 11 to epilepsy and other forms of brain disease, 12 to exhaustion from mania or melancholia, 29 to phthisis and other tuberculous diseases, 6 to colitis, and 16 to senile decay. Seventeen of the persons who died were 70 years of age or upwards. As illustrating the unfavourable nature of the cases sent here for treatment it may be noted that 13 died within the first month and 14 during the second month following admission. The death-rate from phthisis amounted to over 26 per cent. Dr. T. W. McDowall, the medical superintendent, calls attention to the fact that the asylum continues to be inconveniently crowded, and he considers that the want of adequate space for the sick and infirm is a cause of disease. He also speaks with great earnestness of the necessity of awakening interest in scientific research as to the cause and treatment of mental disease. Years of neglect of these higher views as to the care of the insane and the administration of asylums has brought the medical department of this work into bad repute with the medical profession, and at the present time it is almost impossible to get intelligent, keen young professional men to enter the service. Dr. McDowall urges the committee of the asylum to appoint a small subcommittee for investigation of this matter.

County Borough of West Ham Lunatic Asylum (Annual Report for the Year 1913).—The total number of cases under treatment during the year was 1234, the average daily number on the register being 973. Out of the 233 direct admissions, 61 cases had a hereditary history of insanity, epilepsy, alcoholism, or other neurosis, giving a percentage of 26. In 37 cases the existence of a greater or less degree of alcoholic intemperance was obtained, and mental stress in 11 cases. The other principal exciting causes were senility in 13 cases and puberty in 5 instances. Fifty-one cases were discharged recovered, giving a percentage of 21·8 on the direct admissions, and a percentage of 4·13 on the total number under treatment. Mr. L. F. Hanbury, the medical superintendent, points out that the comparatively low recovery rate is due firstly to the very hopeless class of patient usually admitted on the male side, and secondly to the fact that the standard of recovery is a high one. There were 117 deaths, giving a percentage of 9·49 on the average number resident—15·45 for males and 8·7 for females. General paralysis was the most frequent cause of death, occurring in 25·6 per cent. of the cases. Senile decay accounted for 20·5 per cent. Post-mortem examination was held in 87 per cent. of the deaths. Two patients died from dysentery, and in 11 cases tuberculosis of the lungs was regarded as either a primary or secondary cause of death. The provision of an open-air verandah on the male side has proved of great assistance both in the isolation and treatment of this disease, and similar benefit will doubtless be obtained from the one on the female side recently completed. The asylum continues to be greatly overcrowded.

[1] See THE LANCET, March 21st (p. 817) and April 4th (p. 975), 1914.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 14, 1914.

The Lister Institute and the Medical Research Committee.

NOTHING less than the future of the Lister Institute will be the subject of a discussion between the Members of the Institute on Wednesday next, Nov. 18th. The question at issue is whether the Institute should be presented to the nation, temporarily and on a trust basis, to be the headquarters of national medical research, amalgamating for that purpose with the National Medical Research Committee set up under the National Insurance Act, and the answer to the question is one which the Members will necessarily have difficulty in finding. Perhaps they will be able to take comfort from the fact that as they are strongly recommended by influential persons to take both courses neither course can be without its distinct merits.

The steps which have led up to the present critical position are as follows. About two years ago the National Health Insurance Commissioners decided to institute in London, under powers provided by the Act, a Central Institute of Medical Research. This being known, the Governing Body of the Lister Institute in March last recommended to the Members of the Institute that, provided they had the legal power, they should offer to the nation, under conditions to be considered, the whole organisation and resources of the Lister Institute as the nucleus of the new department of medical research. The recommendation was based upon information readily supplied by the Medical Research Committee, appointed under the Act, and was accompanied with provisions: "(1) that representation on the executive committee of the national scheme should adequately safeguard the interests of the Lister Institute; (2) that suitable employment for the large majority of the present staff should be provided; and (3) that details of the programme and of the budget of the national scheme should command the approval of the Governing Body (of the Institute)." That Governing Body was, moreover, advised that the Members in carrying out such a recommendation would be within their legal rights, while Viscount IVEAGH, who in virtue of his magnificent contribution to the endowment of the Institute enjoys the right to veto any disposal of the Institute to which he might object, approved the recommendation, making one of the five with seats on the Governing Body who voted in its support. There was one dissentient vote and one abstainer. The copy of the resolution, thus arrived at, having been forwarded to the Medical Research Committee through Lord MOULTON of BANK, chairman of that committee, whose sympathy had already been enlisted, subcommittees from each body were appointed to consider, without prejudice to the future action of either, whether amalgamation would be feasible and acceptable. The two committees drew up a scheme, embodying the terms of amalgamation which they were prepared to recommend to their respective authorities as satisfying the stipulations of both sides. The proposed scheme of amalgamation provided for the representation of the present Governing Body of the Lister Institute on the Medical Research Committee, for employment of the present staff of the Lister Institute and the maintenance of its name, and set out in detail the disposition of the combined research staffs, with suggestions for adjustment of salaries. The prospective budget showed that the amount to be contributed towards the new Central Institute from medical research funds would be £19,000, at any rate for the next two years, but, Lord IVEAGH having generously offered to build upon the land adjacent to the Institute at Chelsea a Research Hospital of 50 beds, the upkeep of this institution would entail later an annual additional expenditure of not less than £5000.

This scheme of amalgamation was considered on July 17th of this year at a full meeting of the Governing Body of the Institute, and at the close of the sitting a resolution was moved and carried on a vote of five (Sir HENRY ROSCOE, Viscount IVEAGH, Mr. J. LUARD PATTISSON, Professor E. H. STARLING, and Sir WILLIAM OSLER) against two (Sir JOHN ROSE BRADFORD and Sir DAVID BRUCE) approving of amalgamation. At the same meeting the honorary treasurer of the Institute, Mr. PATTISSON, was instructed to seek an interview with the Treasury as to the terms on which the funds and property of the Institute could be offered to the nation. That interview was held on July 27th, when the terms, provisionally agreed to, proposed to place the property of the Institute in the hands of three official trustees as an endowment of capital for the benefit of national medical research, the income to be regularly set to the credit of the Research Fund. The trustees were to have the power to realise and reinvest any of the funded investments in their trust, subject to the approval of the Minister of State in charge of the Insurance Act, and if such a course should be recommended by the Medical Research Committee: they could also realise any land or buildings in their trust, the realisations being placed to the credit of the trust, and being available for reinvestment in land, buildings, or other securities. With the approval of the Medical Research Committee and the responsible Minister they would also be empowered to use any portion of the funds in their hands for capital expenditure. The suggested

clauses governing the custody of the funds of the Institute further allowed for cancelling the trust in the event of the Government diminishing its contribution to the Medical Research Fund or ceasing wholly to utilise the Institute or its endowment for medical research. In these contingencies the trustees, in consultation with the Royal Society and with Viscount IVEAGH or his successor in the title for the time being, would submit for the approval of a legal court a new scheme for appropriating the property to the furtherance of medical research. Provision for the maintenance of the work of the serum farm at Elstree was made, and the last clause would terminate the Trust in 20 years by handing over unconditionally to the Government for the purposes of national medical research the whole of the property included in the Trust.

On the passing of the resolution approving the scheme for amalgamation Sir JOHN ROSE BRADFORD, the chairman of the Governing Body of the Lister Institute, resigned his chairmanship and seat on the Governing Body, and he has stated publicly that he regarded the proposal, involving as it did the cessation of the activities of independent organisation and the centralising of pathological research under Parliamentary control, to be prejudicial to the interests of scientific research.[1] He has received whole-hearted support in his action from distinguished men of science working in various branches of research, while the majority on the Governing Body have put forth an able and frank statement controverting his view, which cannot fail to command close attention. The issue is with the Members, who have to decide whether they will uphold with the necessary proportion of votes the recommendation of their Governing Body, which also has the approval of Dr. C. J. MARTIN, the Director under whose superintendence the Institute has risen, as is claimed in the statement of the Governing Body, almost to the status of a national institute for medical research. Of the force of the arguments on either side there can be no doubt. The projected national scheme for medical research has very much the same programme and same ideals as the Lister Institute, and it is believed that coöperation would prevent overlapping and prove economical. The Lister Institute, moreover, would gain by amalgamation that access to hospital practice which some of their Members miss. On the other hand, the arguments for keeping the Institute free from Government control are not without force. Scientific research is largely concerned in the discoveries of rules, but a Government department might be tempted to lay down rules for discoveries—which would be fatal. We would prefer to see the Lister Institute preserve its independence; we believe that there is ample scope for the energies of both bodies working separately. But we are bound to admit that those who take the opposite side in the controversy have forcible arguments behind them, notably the argument of expediency. And expediency must be reckoned with.

[1] Brit. Med. Jour., August 1st, 1914, p. 265.

The National Council for Combating Venereal Diseases.

IT was considered, and most wisely, by the organisers of the movement for constituting a National Council for Combating Venereal Diseases, that the present position of the country, in the grip of a terrible war, should not be a bar to their energies. We agree wholly with their resolve to continue the work which they had begun, finding, indeed, that the existing national situation is one that particularly calls for the combating of venereal diseases.

The objects of the new body, which definitely came into existence at an inaugural meeting held on Wednesday last, are wide and simple. The National Council will aim, firstly, at giving the public accurate and enlightened information as to the prevalence of these diseases. Here they will find a public curiously divided into two camps—namely, first, those who appear to know nothing of the matter or to be indifferent to its importance; and, secondly, those who have been terrified by false or misunderstood evidence into believing that every other person in the streets, and most of the children who are born, are the victims of syphilis. It will be difficult work at the outset to arouse interest on one side and to allay unnecessary apprehension on the other, and the lessons that will have to be read to the public will need careful consideration. The necessity for early treatment is a point which the National Council will put in the front of their teaching, and as a corollary they will strive to promote greater facilities for the treatment of these diseases than now exist, and wider opportunities for medical practitioners to study them. It is notorious that, under the ill-management and prudery which still have power among us, the treatment of venereal diseases has been unsatisfactory in many respects, and even the knowledge of a large number of medical men has been desultory or acquired only by a disproportionate amount of pains, owing to the conditions not having become familiar to them in the ordinary course of a hospital training. The setting right of these matters the National Council are placing in the front of their programme, and by attempting also to disseminate a sound knowledge of the laws of life they are going to the root of the matter. For physiological ignorance is at the bottom of much of the prevalence and spread of venereal diseases. This it is, every whit as much as any feeling of shame, which sends the victim to a quack; devoid of the least knowledge of the significance of his symptoms he is willing to believe any audacious lie which he may read in an advertisement or any stupid counsel he may receive from an equally credulous friend. Physiological ignorance again allows the terrible results of latent

infection to wreak themselves upon women and children, and still more strikingly is it apparent in the malignant teaching, once so common, that chastity is in most cases impossible and in many cases harmful.

Following upon a wide spread of information to the public it will become possible for the National Council to promote such social and legislative reforms as are relative to the aims and objects of the movement. Here the National Council will attempt to coöperate with existing associations so that much excellent but disconnected effort may be utilised in a coöperative manner. For example, the Liverpool Medical Institution about a year ago appointed a committee to consider the best means of combating venereal diseases, and this committee recommended that educational methods should be adopted in very much the manner that the National Council desire. Dr. CHARLES J. MACALISTER, the chairman of the committee, has written an admirable pamphlet for distribution to the public, which might well receive gratuitous circulation, while Dr. R. W. MACKENNA has added a warning to soldiers which is, in our opinion, extremely timely. "You are going," says the note to soldiers, "to fight in order that your children and your children's children may enjoy the heritage of liberty. See to it that no action of yours will rob them of a heritage that is as priceless as liberty—the heritage of good health." As the prevalence of venereal disease among the recruits has been referred to in our columns, we take this opportunity of saying that in many directions we have heard that the conditions have greatly improved.

Annotations.

"Ne quid nimis."

THE FUTURE OF MEDICINE.

REFORM in the methods of medical education seems to be everywhere in the air. In an address at the Jubilee of the Medical School of Melbourne University Dr. James W. Barrett, C.M.G., dealt with the problem particularly as it affects Australia. In the course of his remarks he made some observations of a general character. He pointed out that two great problems dominate the future of medicine: (1) clinical research; and (2) organisation of preventive medicine. With regard to the first, he suggested that the problem of pathology is the problem of medicine and *vice versâ*, and that investigations in both pursuits had better be undertaken by a man who is both a pathologist and a physician. It is the separation of what is called "pure science" from its human context that constitutes a fault. Our conception of the term science needs amending. Medicine and surgery are not the application of science to practical problems, but are divisions of science in themselves—that is to say, that from the study of phenomena principles can be inferred. Dr. Barrett advocates, more or less, the plan of the Johns Hopkins University, championed in this country by Professor E. H. Starling and Sir William Osler, that in the future in every great hospital there must be a physician and a surgeon devoting themselves entirely to the study of medicine and medical education, and relieved from the necessity for private practice. He considers it not undesirable that even the professors of physiology and anatomy should be permitted to do a certain amount of hospital clinical work, which would familiarise them with the necessary sense of the nature of the problem to be faced daily, and offer a continuous inducement to the professor to mould the teaching of his subject in accordance with practical suggestion. Some of the methods of chemistry, he thinks, could be taught equally well if the problems submitted to examination were those connected with the human body, healthy or diseased. The professors would thus be stimulated to devote their leisure to research more directly connected with the work of the physician and the surgeon. Dr. Barrett advocates the creation of an organised system of preventive medicine which shall include all the present scattered sanitary agencies, beginning with the school medical work and taking charge of the public health in all its ramifications. A Central Board of Health, he urges, should be instituted, to include one or two representative medical men, in addition to the chairman, an engineer, an architect, and perhaps one or two municipal representatives. The functions of such a board would be the general development of preventive medicine, the control of the medical health officers, and the establishment of by-laws and general regulations. No scheme of preventive medicine can be efficient unless the coöperation of the medical profession is secured, and that can only be effected by asking them to take a hand. Such a board would have to consider questions of town planning, housing, rural settlement and food-supplies, smoke abatement, and all those problems which are concerned in the consideration of a more complete and better enjoyment of life. It seems clear that medicine is passing more and more from its traditional individualistic standpoint and becoming increasingly corporate in its aims. In the not distant future there may be a general movement on the lines indicated by Dr. Barrett.

CAMBRIDGE UNIVERSITY AND THE BELGIAN UNIVERSITIES.

BELGIUM, a national martyr, has surely deserved well of this country especially, in every capacity of life. Great Britain has done well, but not one whit better than it were shame not to have done, in making it a national responsibility to take charge of those unfortunate expatriates who have suffered so terribly in behalf of Europe and herself. But besides food, clothing, and shelter for the body, the mind of the race must not be allowed to starve, and in this respect the University of Cambridge has extended a helping hand in offering sanctuary in her ancient academic halls to the expatriated professors and students of the Flemish universities. It was hoped that Louvain University would be able to transfer her corporate and official existence to Cambridge for the period of her exile; but as that proved impossible, steps have been taken for the formation of unofficial courses under Flemish professors to protect the students from the demoralising and dangerous consequences of enforced idleness—courses that shall afford systematic instruction on the lines of the

Belgian universities in accordance with the individual requirements of refugee students, so far as is possible with a necessarily incomplete Belgian teaching staff. The faculties of philosophy and letters and also those of law and engineering are fairly well represented by several Belgian professors and students. Those of medicine and science are at present less adequate, but they are constantly growing. Eleven Belgian professors (of whom only one, Professor Van Gehuchten, with his interne, Dr. Arian, represents the faculty of medicine) are at present established in Cambridge, and three more are known to be coming, and it is hoped by their aid to organise teaching in the respective faculties, for which no fees will be charged. Facilities will also be afforded for those students with an adequate knowledge of English to attend the ordinary courses at the University, while classes for teaching English are at work and will be further extended as required. A hospitality committee, of which the secretary is Mrs. Verrall, at the Bureau de Renseignement, Trumpington-street, Cambridge, has been organised to assist those unable to meet the moderate charges of from 15s. to £1 a week for board and lodgings; but to be eligible for such assistance and for the free courses the students must submit themselves to a medical examination before the proper Belgian authorities and obtain a certificate that they are physically unfit for military service or have been rejected by the Belgian authorities for other reasons, while students of Belgian universities from foreign (neutral) countries must of course bear their own charges for maintenance. All applications should be made to Mr. J. T. Shepherd, King's College; or to Mr. E. Bullough, Cains College, Cambridge. It is earnestly to be hoped that in this way this country may be able in some degree to mitigate the effects of the vandalism wrought by our foes on true culture.

TRAUMATIC ENDOCARDITIS.

IT is well known that in severe injuries of the chest, such as are due to blows, falls, or crushing, rupture of the heart or pericardium or of the valves may occur, immediately producing symptoms. But it is not so well known that cardiac symptoms may be slight or absent, and develop later in consequence of endocarditis following the injury. In the *Boston Medical and Surgical Journal* of Oct. 1st Dr. S. G. Weber has reported the following case. On Dec. 24th, 1908, a strong boy, aged 16 years, was riding in a wagon with which an electric car collided. He remained unconscious for half an hour. He was bruised on the left side of the trunk, left arm, and left leg. He complained of pain in the head, shoulder, and back, and could not lie on the left side. Attacks of giddiness and faintness occurred three or four times a day for the first week, and these continued for six weeks, during which the breathing was difficult. About ten days after the accident he was taken to the Massachusetts General Hospital, where examination with the X rays showed separation of the upper epiphysis of the left humerus. Dr. Weber saw him on Feb. 9th, 1909, when he complained chiefly of pain in the back and left arm. There was tenderness above the left clavicle, over the cervical plexus and over the sixth to the eighth dorsal vertebræ. The heart sounds and area of dulness were normal. He was not seen again until September, 1912, when he was working as a teamster. He was a tall, fleshy, strong-looking man, but he could not lift heavy weights, and if he tried to he felt pain in the lower dorsal region. He could not run so well as before the accident and soon got out of breath. There was a loud systolic souffle over the whole præcordium, loudest at the edge of the sternum opposite the fourth rib. The impulse was in the seventh intercostal space, about half an inch to the right of the nipple. There was slight œdema of the legs. An explanation of the development of endocarditis some time after an injury is furnished by those cases of injury causing early death from lesions other than cardiac, in which slight lesions in the heart are found to be originating inflammatory changes. Riedinger mentions as one of these lesions small ecchymoses within the heart which may lead to changes in the valves similar to valvular lesions arising from other causes. He reports the case of a woman, aged 54 years, who fell from a third storey into the street and died three days later. There were fractures of the lumbar vertebræ and occiput. The endocardium showed a thin exudation and was infiltrated with blood. The points of insertion of the chordæ tendineæ into the mitral valve were swollen. Under the endocardium were many small hæmorrhages and spots of inflammatory infiltration. Bernstein has collected and analysed 126 cases in which cardiac symptoms followed an injury. In 85 they appeared immediately, in 22 after a month, in 6 after a year, and in 9 after more than a year. The less severe injuries of the heart are slight lacerations of the muscle or ecchymoses into its substance or just beneath the endocardium. Any symptoms produced may soon disappear. But slow valvular changes may follow and be recognisable only after a longer or shorter time. Such slight cardiac injuries have been overlooked or ignored as causes of valvular disease.

NATHAN SMITH.

Nathan Smith,[1] though his name is little known in this country except to students of medical history, is one of the most important figures in the history of American medicine, especially as regards its educational side. He was the founder of the medical school of Dartmouth, New Hampshire, in 1798, the practical founder of the Yale Medical School in 1813, and the inaugurator (in conjunction with President Allen, of Bowdoin College, Brunswick, Maine) of the Medical College in connexion with Bowdoin, endowed by the Legislature of Maine in 1820. Finally, about 1821, in collaboration with his son Nathan Ryno Smith, he established the Medical School of the University of Vermont. Thus, with the addition of Harvard, five of the six New England States were provided with medical schools, and Nathan Smith's own opinion was that "every State should have one medical school and no more." Nathan Smith was a descendant of one of the old Puritan families who landed from the *Diligent* in New England in 1638. Among the settlers was a Mr. Henry Smith, who in process of time became Nathan Smith's great-great-grandfather. Henry Smith came from Hargham Hall, Norfolk, and so was presumably a country squire of the day. John Smith, Nathan's father, occupied himself in farming at Chester, Vt., and here Nathan passed his early days. He received his medical education from a well-known medical man in the same state, by name Goodhue, and studied with him from the age of 22 till 25, when in 1787 he set up on his own

[1] The Life and Letters of Nathan Smith, edited by Emily Smith. New Haven, Yale University Press; London, Humphrey Milford; Oxford University Press. 1914. Pp. 185. Price 10s. net.

account. Most of the story of his life and work is told in his own words as given in his letters, and the interest of the book is much increased by the illustrations. Of Smith's medical writings the most notable are the Essay on Typhus (i.e., Typhoid) Fever and Observations on the Pathology and Treatment of Necrosis. His letters are delightful reading on account of their simple earnestness and desire for knowledge, and the whole book is well worth study.

THE CEREBRO-SPINAL FLUID IN ACUTE NEPHRITIS IN CHILDREN.

THE study of the cerebro-spinal fluid has at the present day acquired a paramount importance in pathology, due, in a large measure, to the numerous and interesting observations made on children who are without doubt the most fitting subjects for investigation, both from their proneness to disease of the central nervous system and from the ease with which lumbar puncture can be performed on them. In recent years this study has broadened its horizon in the fact that its importance is no longer limited to cases of affections of the nervous centres, but has extended also to morbid conditions not localised in them, and more especially at the present time to cases of renal lesions, with uræmia, acetonæmia, and azotæmia. From the fact that with regard to some substances, such as urea, for example, the cerebro-spinal fluid reflects more or less exactly the state of the blood serum, there being a parallelism between the amount contained in both these fluids, the utility of conducting investigations preferably on the cerebro-spinal fluid becomes evident. Professor L. M. Spolverini, of the University of Rome, estimates the presence of abnormally large quantities of urea, 1 to 4 per 1000 instead of 0·5 or 0·6 per 1000, as an indisputable index of a process of azotæmia, while a smaller amount excludes it absolutely. Authorities are not agreed as to the figures. Systematic researches in acute renal inflammation in children have hitherto been scanty, but Professor Spolverini gives in a recent issue of *Il Policlinico* the result of his investigations on four children, from 3 to 5 years old, two of whom had acute hæmorrhagic nephritis associated with angina, one an acute nephritis with malaria, and the fourth an acute nephritis of unknown origin. Lumbar puncture was practised in each on an average five to six times at intervals of three to four days, commencing from the second day of their admittance to the clinic. The fluid drawn off was found markedly increased in quantity, on an average 20–25 c.c. each time, and was under considerable tension. The amount was visibly diminished as the patient improved, but still remained rather excessive even after cure was established, as shown by examination of the urine. With regard to the quantity of urea in the cerebro-spinal fluid it was found to be increased in all the cases. Moreover, diminution in the amount was found to coincide with the clinical and anatomo-physiological improvement of the kidneys, and increase was noticed whenever retrogression was observed by examination of the urine. After recovery the quantity fell to 0·5 or 0·6 per 1000. The amount of chlorides remained constant both in the acute stage and after recovery, oscillating between the limits of 7·3 and 7·5 per 1000. Estimation of the amount of albumin gave similar results and was maintained within normal limits. Although the utility of these observations is limited on the one hand to the presence and degree of cerebro-spinal hyperidrosis and on the other to the determination of urea, it is evident that it may constitute an important element, both diagnostic and prognostic, especially when compared with the clinical course and with examination of the urine. It has been suggested by Nobécourt and others that when the amount of urea reaches 3 per 1000 the life of the patient is in imminent danger. Lumbar puncture, moreover, offers certain therapeutic advantages, and Professor Spolverini's experience is that the withdrawal of cerebro-spinal fluid in patients with nephritis not only shortens and modifies in a favourable way the further development of the disease, but must be considered an efficacious method of eliminating the nervous phenomena of uræmia, both by decompression of the cerebro-spinal column and by removing from the organism, and especially from the central nervous system, a highly toxic fluid. This result is observable by the fact that the characteristic headache of the patients disappears after lumbar puncture, and the same may be said of the coma and convulsions which contribute so materially in raising, especially in children, the rate of mortality.

THE ULTIMATE RESULTS OF SANATORIUM TREATMENT IN TUBERCULOSIS.

AT a meeting of the Medical Society of Copenhagen Professor Bang read a paper, freely illustrated by statistics, on the results of sanatorium treatment estimated many years after the patient's discharge. His paper, and the long discussion which followed, have been reported in *Hospitalstidende*. The many tables and statistical analyses displayed by Professor Bang provoked a lively discussion as to the merits of statistics in the estimation of sanatorium results, and he admitted that a detailed knowledge of each case is necessary for the judgment of sanatorium results by the standard of figures. One striking feature of his paper was the good prognosis which his figures indicated for working-class patients admitted to a sanatorium in the second and third stages of the disease. It has long been held that the prognosis in pulmonary tuberculosis is best in the first stage of the disease, and declines as the second and third stages are reached. Indeed, this view is so generally regarded as a truism that its accuracy has scarcely been questioned. That it does not embrace the whole truth is shown by Professor Bang, whose figures are obtained from several sanatoriums in Denmark, where, perhaps more than in any other country, sanatorium treatment has been thoroughly tested. The relative numbers of patients discharged "symptom-free" from sanatoriums do, indeed, fall with the stages of the disease; but when the fate of all the patients is investigated several years later many of the "symptom-free" are found to have relapsed, while patients discharged unimproved in the second and third stages of the disease are often found to have regained their capacity for work. Professor Bang showed that only two-thirds of the patients in the first stage, discharged as "symptom-free," were fit for work several years later. On the other hand, the number of patients in the second stage, discharged as "symptom-free," had actually been augmented several years later, their ranks being increased by one-third by patients who, though discharged as unfit for work in the second stage of the disease, had ultimately regained their capacity

for work. This paradoxical result is even more striking in the third stage of the disease. The explanation of this phenomenon is to be found in the faultiness of the present classification of the disease according to its extent, but not according to its virulence, to the patient's power of resistance, and to many other factors. In many cases patients are classed in the second or third stages, although on admission to a sanatorium the disease is practically quiescent. Professor Bang suggests that the present tendency to favour patients in the first stage of the disease in preference to patients in the other stages when sanatorium accommodation is limited may not be always wise. Though the patients in the latter stages have hitherto been regarded as incurable and treated with scant attention, he urges that they should in the future be regarded more hopefully and given the chance of sanatorium treatment, even though this be only for a short time. His observation that patients often relapse who are discharged from a sanatorium with the disease arrested in its first stage, whereas others often recover who are discharged unimproved in the second stage, is not at first sight flattering to sanatorium treatment. His estimate of the value of the present methods of classification of the disease is also depreciatory, and, as one speaker during the discussion cannily suggested, the most reliable classification would be the following: (1) patients that recover, and (2) those that do not.

CONGENITAL PYLORIC STENOSIS.

Mr. A. J. Walton[1] recently had an opportunity of observing the condition of the pylorus post mortem, seven months after a completely successful operation, gastro-enterostomy, had been performed for this defect. Such an opportunity cannot often occur. Since the date of operation and up to a short time before death, due to epidemic diarrhœa, health was excellent; it might have been expected, therefore, that the pylorus would have to some extent resumed its normal form. This, however, was not the case. It formed a tumour-like mass, three-quarters of an inch in length. Section showed an enormous hypertrophy of the muscular coats and the mucosa was thrown into folds. It was impervious to the passage of water. Such an observation throws some doubt upon the view which regards congenital hypertrophic stenosis as essentially congenital, but is in favour of the condition being due to a primary spasm, which later is followed by pure hypertrophy of the muscle coat. A symptom which supports this view and which is characteristic of the condition is that the child at birth can retain its food; vomiting usually begins only when the maternal milk is changed, such alteration inducing by irritation the primary spasm. Treatment may be medical or surgical, and there are supporters to be found in both camps. Statistics are curiously variable as to the relative merits. Dr. G. F. Still reports 19 recoveries out of 36 cases treated medically. Four continental writers record between them 66 recoveries out of 71 cases similarly treated. On the contrary, Mr. Walton's personal experience gives startling figures for the physician: 18 died out of 19 cases (all hospital cases). Surgically the figures on the whole present successes in about an equal proportion to medically treated cases. The conclusion is suggested that medical treatment should be tried first. As to length of time Mr. Walton thinks for a space of two weeks only if the child still continues to lose weight, or three weeks if holding its own. Then surgical intervention should be indicated. Of medical treatment careful diet and lavage are the main features. Surgically, pyloroplasty or gastro-enterostomy is the best measure. The writer favours the latter method.

[1] Annals of Surgery, 1914, September, p. 342.

TREATMENT FOR NOCTURNAL ENURESIS.

Dr. Cahier has reported the results of a new form of treatment he has devised for nocturnal enuresis; it is applicable to either children or adults. He injects physiological salt solution at a rapid rate directly into the perineum, on each side of the median raphe. The quantity for an adult he places at from 80 to 100 c.c. on each side; for children 40 to 60 c.c. The skin must not be stretched unduly. The immediate result of the procedure, which is stated to be entirely harmless and comparatively simple, is to form a huge blister, and it is upon the effect of this on the nerve terminals in its vicinity that the curative value depends. The tension in the region when the desire for micturition occurs suffices to awaken the patient and aids in breaking the habit and re-establishing control. This method Dr. Cahier has tried upon 30 cases in the last eight years. In 18 there followed a complete cure after a single injection; in 6 a second or third injection was required; while in 6 no benefit was realised. By a similar method of treatment in children, Ganléjac reports 75 cures out of 150—half the number. Such results appear favourable and should warrant a further and more extensive trial.

IN connexion with the discussion on Surgical Experiences of the Present War, to be introduced by Sir Watson Cheyne, at the Medical Society of London on Monday next, Nov. 16th, at 8.30 P.M., the following have signified their intention of taking part: Sir Frederic Eve, Mr. Arthur Edmunds, Mr. R. P. Rowlands, Mr. D'Arcy Power, Mr. Charters Symonds, Dr. Dennis Embleton, and Dr. Ironside Bruce.

Surgeon-Major-General Sir John By Cole Reade, K.C.B., the Crimean veteran whose death at the age of 82 occurred recently in London, was the oldest of the Honorary Surgeons to the King. Some details of his distinguished career are given in our Service columns this week.

WE much regret to announce the death on Sunday last of Mr. Charles Barrett Lockwood, consulting surgeon to St. Bartholomew's Hospital, and a member of the Council of the Royal College of Surgeons of England.

THE PANAMA PACIFIC INTERNATIONAL EXPOSITION AT SAN FRANCISCO.—We referred to this exposition in THE LANCET of July 11th, p. 103. We now learn from the commission that notwithstanding any rumours of a postponement on account of the European war the exposition will be opened on the date previously announced—viz., Feb. 20th, 1915. The amount of money to be spent on the exposition has been carefully estimated at $56,500,000, "too vast a sum to be tied up and allowed to remain idle." The promoters expect every success to attend the project.

THE OCCURRENCE OF ACUTE EMPHYSEMATOUS GANGRENE (MALIGNANT ŒDEMA) IN WOUNDS RECEIVED IN THE WAR.

BY R. H. JOCELYN SWAN, M.S. LOND., F.R.C.S. ENG.;
ISAAC JONES, M.D. MELB.,
TEMPORARY LIEUTENANT, ROYAL ARMY MEDICAL CORPS; AND
J. W. McNEE, M.B., CH.B. GLASG.,
LIEUTENANT, ROYAL ARMY MEDICAL CORPS (SPECIAL RESERVE).
(Attached to the Royal Herbert Hospital, Woolwich.)

WE desire to place on record at once the following three cases of acute emphysematous gangrene which have occurred among the wounded sent home from the front. We do so in order to draw attention to the condition and to warn other surgeons in order that similar cases may be recognised and isolated at once from patients requiring surgical dressings. Although acute emphysematous gangrene was common in the pre-Listerian era, it has become a rarity since the introduction of antiseptic surgery.

Since the commencement of the war some 2000 cases have been admitted to the Royal Herbert Hospital, but the disease has only appeared in the last fortnight. Two of the cases were recognised immediately at the reception of the convoy, but the third case had been two days in hospital before the condition became manifest. The condition is, of course, unlikely to occur in moderately clean wounds, as the causal organism, being an anaerobe, develops better in the presence of other pyogenic organisms.

Diagnosis.

The three cases described below are all similar in the fact that in smears from the discharge spore-bearing organisms were found identical morphologically with the bacillus of malignant œdema. The spore-bearing bacillus did not grow aerobically, but was obtained in deep stab cultures in glucose agar from two of the cases. In the second case, in which amputation was performed, sloughing of the flaps occurred within 12 hours, and in the discharge the same spore-bearing bacillus was found present in almost pure culture. It was unfortunately impossible to carry out animal inoculations from any of the cases. The diagnosis of "malignant œdema" in these cases rests, however, as much on the clinical appearance as on the above bacteriological findings.

A description of the three cases is given briefly below, but emphasis may be given here to some of the important clinical points on which the diagnosis chiefly depends. These may be briefly summarised as follows: (1) The blackish-brown, almost charred appearance of the wound. (2) The abundance of a thin, brown-coloured serous discharge, in which microscopically much granular débris but comparatively few pus cells could be recognised. Great numbers of other pathogenic organisms were present in all three cases in addition to the spore-bearing bacilli. (3) The curious heavy, penetrating odour from the wound. (4) The skin surrounding the wound became of a slate-blue colour. Blisters containing brownish fluid were present over the area of dark skin in the case in which the gangrene had spread. (5) Fine emphysematous crepitations could be made out in the tissues surrounding the wound. (6) Marked toxæmia accompanied the disease in the two fatal cases, but it is noteworthy that in both of these consciousness was unimpaired until a minute or two before death.

Notes of Cases.

CASE 1.—Lieutenant H., wounded in the right thigh on Oct. 26th by a bullet fired at a range of five yards. The bullet entered the thigh posteriorly and to the outer side just above the knee, and passing out on the inner side of the thigh obliquely caused a wound about 8 inches in length. Wounded at 2 A.M., the patient was obliged to lie in the trenches until after midday, when he was carried in an old and dirty farm cart to the field hospital. He arrived at Woolwich on Oct. 29th looking pale and ill, with a temperature of 103·6° F. The wound on the inside of the thigh presented the appearance of a bayonet thrust, being 8 inches long and 3 inches broad at its widest part. It passed deeply into the muscles of the thigh and was very foul.

The patient was given an anæsthetic at once, and the whole wound was thoroughly opened. The cavity was swabbed out with hydrogen peroxide and then with solution of iodine, and afterwards a large fomentation was applied. On Oct. 31st he appeared much better, but at 11 P.M., when the wound was being dressed, it was noticed that the outer edge was slightly discoloured, and the surface of the wound had assumed a dark, charred appearance. His general condition grew rapidly worse; he had profuse sweatings, and became collapsed. At 6 A.M. on Nov. 1st the wound was quite black in colour, and discharging an enormous amount of thin brownish fluid. The thick dressings were soaked through by the abundance of the discharge. The outer and upper third of the thigh became livid and then dark blue in colour, and the epidermis became raised in places into blisters containing also a thin brownish fluid. Fine crepitations could now be felt in the tissues surrounding the wound.

The fluid discharge from the wound on examination was found to contain few pus cells and enormous numbers of organisms, including a spore-bearing bacillus identical morphologically with the bacillus of malignant œdema. The appearance of the wound and the characters of the discharge had completely altered in eight hours. The emphysematous process increased, and the patient died at 12.15 P.M.

CASE 2.—Belgian soldier, F. T., admitted on Nov. 2nd, 1914. He was wounded on Oct. 28th while scrambling out of a trench before the advancing Germans, and fell back into the trench. The bullet entered behind the right knee and came out in front. He was made prisoner, and lay for 26 hours in the trench before the French re-took the position, after which his wound was dressed for the first time. The wound was again dressed on the following day (Oct. 30th), but not again until admission to hospital at Woolwich. He was found to have a severe wound below and behind the right knee, shattering the head of the tibia and opening the knee-joint. The wound was lacerated, black in colour, and from it there exuded a thin dark-brown coloured fluid. Swelling and definite emphysema were present in the tissues surrounding the wound. The patient's general condition was bad. A bacteriological examination of the fluid made immediately after admission showed pus cells to be scanty and a considerable amount of granular débris. Organisms of many kinds were present, and also very numerous spore-bearing bacilli, identical morphologically with the bacillus of malignant œdema.

The patient was at once removed to an isolation ward, and the limb was amputated through the upper third of the thigh (Lieutenant Jones). The flaps were swabbed freely with hydrogen peroxide, and free drainage established in the stump. Within 12 hours, however, sloughing of the flaps set in, and in films from the discharge the spore-bearing bacillus was found. The organism was grown in glucose agar stabs in almost pure culture. The patient's general condition became worse, death occurring six days after the operation.

CASE 3.—Belgian soldier, F. L., admitted on Nov. 2nd, in the same convoy as Case 2. He was wounded on Oct. 28th by a rifle bullet fired from a range of 10 metres. He had 60 cartridges in his right trousers pocket, and states 15 of them exploded on being struck by the bullet. After being wounded the patient lay in the trenches for 24 hours a prisoner of the Germans, and was not dressed until 30 hours after his wound, when the French again occupied the

position. Eighteen hours later he was again dressed at Calais.

Immediately after admission smears were made from the thin discharge from the wound and spore-bearing bacilli found to be present. The spores were central and the organisms identical morphologically with those of malignant œdema. There was, however, no local gangrene round the wound, but slight emphysema around the larger wound. The patient's general condition was quite good, and he was at once isolated. It was decided to treat the case by incising the area very freely, and this was done at once. Numerous small fragments of cartridge casing were taken out of the wound, which was well swabbed with hydrogen peroxide and potassium permanganate solution. The result has been good, and the patient is so far doing very well. His pulse and temperature are now normal, and his wound is becoming covered with healthy granulations.

Treatment.

Remarks on prophylactic treatment are here unnecessary, but it will be noticed that in each of the three cases the patients had in the exigencies of circumstances to remain lying in the trenches untreated for many hours. With the occurrence of the disease active measures must be adopted as soon as the bacteriological evidence is forthcoming, first to isolate the patient from other surgical cases and then to attack the wound. In the first case the condition was hopeless from the onset of the spreading gangrene, and in the second amputation well above the wound was performed at once owing to the extensive injury to the knee-joint. In the third case the patient's general condition was such that it was decided to attempt in the first place to save the limb, especially as any operation would have to be performed through infected tissue. When it can be carried out, free and extensive incisions into the area with thorough swabbing with peroxide of hydrogen and permanganate solution should be used, and we are inclined to recommend this in preference to pure carbolic acid, as we are dealing with anaerobic organisms. In our two cases dressings soaked with hydrogen peroxide were applied very frequently. At the same time large quantities of saline should be given by the rectum and by subcutaneous infusion.

"THE LANCET" HYGIENIC TESTS FOR GAS FIRES.

It seems to be agreed in the practical gas-fire industry that the requirements which we have laid down in regard to the escape of combustion products from the gas fire into the room should be complied with. If it were not so there would not have been so many applications to us to apply the hygienic test to new models of fires, and it seems certain that the test has been very generally adopted. At all events it is rarely now that the models sent to us show any defect in this respect, and we have little doubt that the fires are submitted to the test by the makers themselves at the factory before they reach us. The present winter season therefore opens well with a supply of gas fires which have passed a test of hygienic efficiency. We are sure that the establishment of this standard will do much to make this convenient means of domestic heating popular.

Another series of gas fires was recently submitted to us for testing purposes by the Parkinson Stove Company, Limited, of 129, High Holborn, W.C. The description of the models was as follows: No. 1950 Congreve, No. 1931 Ratcliffe, No. 1933 Ratcliffe, No. 1942 Edmund, No. 1721 Pathan, and No. 1732 Spartan. These were all well designed and attractively finished fires, and not one of them showed the slightest escape of combustion products either when tested in the open, unattached to a chimney, or when unprovided with a flue or elbow. We regard these fires, therefore, as satisfactory from the hygienic point of view.

We have also received from the Davis Gas Stove Company, Limited, of Luton, and 60, Oxford-street, London, W., four types of their new barless gas fires named as follows: Apollo, Venus, Neptune, and Cupid. These all bear evidence of careful construction specially directed to securing hygienic conditions of working. These makers introduced the hygienic test known as the shadowgraph test, so that they took the initiative in excluding gas fires which did not satisfy this test. In other words, they commenced the movement for condemning gas fires which allowed combustion products to escape into the room. Under these circumstances it seemed superfluous to test their own models. However, it is interesting to record that THE LANCET hygienic test was found to confirm the findings of the shadowgraph test, the standard which they adopted. There was no leakage of combustion products from these gas fires even when unaided by an elbow or lengths of flue-pipe. The complete passage of the combustion products through the flue nozzle was demonstrated, and the process is automatic. The firm is much to be congratulated on its pioneer work.

MEDICAL MAYORS.—The following members of the medical profession have been elected or re-elected to the mayoral chair:—Mr. S. Hale Puckle, M.B., Ch.M. Edin. (Bishops Castle), re-elected; Mr. S. R Alexander, M.D. Lond. (Faversham), re-elected; Mr. John Gordon Gordon-Munn, M.D., C.M. Edin., F.R.S.E. (Norwich), Lord Mayor; Mr. R. Jones Evans, M.R.C.S. Eng., L.R.C.P. Lond. (Pwllheli), re-elected; and Mr. J. Parkinson Atkinson, M.D. Glasg. (Saffron Walden), re-elected. It may be noted that the Lord Mayor of Norwich is the first medical man to occupy that high municipal office, though Sir Peter Eade was mayor of that city and county in 1893.

A MAHARAJA AND HIS MEDICAL ATTENDANT.—At Mussoorie recently a rather curious action was tried in which certain arrangements made by a Maharaja in his will for medical attendance upon his surviving family formed the subject of dispute. The Maharaja had by his will directed that certain arrangements for medical attendance upon his family made by him with Colonel Rennie, R.A.M.C., should be continued after his death and directed, his executors "after the departure of Colonel Rennie from Mussoorie to make a similar arrangement with the successor in his business if recommended by him and approved by my said executors, and failing that with the civil surgeon for the time being of Mussoorie." Colonel Rennie disposed of his practice to Dr. G. T. Wrench, the plaintiff in the action, before going to England, and recommended him to the executors of the Maharaja, who had died a short time before, but the executors appointed the civil surgeon, Major Hutchinson, I.M.S., to attend the family of the deceased. The plaintiff contended that they were obliged to appoint him unless they could show a good reason for not doing so, and brought his action to obtain enforcement of the clause in the will. For the defence it was pleaded that the services of Colonel Rennie had been dispensed with before the Maharaja's death, but the court found upon the construction of certain letters and the other facts proved that Colonel Rennie was the medical attendant of the testator's family, if not of himself, at the time of his death. The court, however, held that the direction to the executors to appoint Colonel Rennie's successor subject to their approval did not amount to more than a recommendation, and that they need not give reasons if in their discretion they preferred to do otherwise or call the plaintiff before them and give him a hearing. On this ground the plaintiff's suit was dismissed with costs.

THE SERVICES.

ROYAL NAVAL DIVISION.

THE following appointment has been made on the Divisional Staff: Fleet-Surgeon Arthur Gaskell, Royal Navy, to be Assistant Director of Medical Services (dated Sept. 22nd).

ROYAL NAVY MEDICAL SERVICE.

The undermentioned Staff-Surgeons have been promoted to the rank of Fleet-Surgeon in His Majesty's Fleet:—Dated Nov. 8th: John Boyan, William Henry Daw, Hugh Leigh Norris, Adrien Andrew Forrester, John Stoddart, James Aquilon Forrest, Warren Guy Westcott, Francis John Louis Philip McKenna, Fairman Rackham Mann, William Wallace Keir, Edward Charles Sawdy, Percy Hooper Bannister, Richard Sidney Osborne, Edward Oliver Bamford-Carbery, John Kimber Raymond, and Henry Rule Gardner.

The undermentioned have been appointed Surgeons for temporary service in His Majesty's Fleet:—Herbert McMaster, Bevington S. Jones, Cecil William Fletcher Greenhill, John Douglas James Bruce, Walter Croker Poole White, Thomas Smith Harrison, Edwin Lawrence Sturdee, Gomer Williams, Harold Garrett Chaplin, Frederick Lancelot Duckworth, Frank Winter Lawson, Strangeman Davis Kilner, and William Graeme Robertson.

The following appointments have been notified:—Fleet-Surgeon: E. C. Ward to the *Victory*, additional. Temporary Surgeons: B. A. Playne, lent to the *Pembroke*, temporary; H. G. Chaplin and F. L. Duckworth to the *Victory*; F. W. Lawson, S. D. Kilner, and W. G. Robertson, all to the *Pembroke*, additional, for disposal; J. D. J. Bruce, C. W. F. Greenhill, and W. C. P. White to the *Victory*, additional, for Haslar Hospital; T. S. Harrison and E. L. Sturdee to the *Pembroke*, additional, for Chatham Hospital; and G. Williams to the *Vivid*, additional, for Plymouth Hospital.

ROYAL NAVAL RESERVE.

Surgeon: C. S. Brewer, R.N.V.R., to the *Eagle*.

ARMY MEDICAL SERVICE.

Supernumerary Surgeon-General Sir David Bruce, C.B., is restored to the establishment (dated Nov. 1st).

ROYAL ARMY MEDICAL CORPS.

Supernumerary Major Sir Edward S. Worthington, M.V.O., is restored to the establishment (dated Oct. 15th).

The undermentioned are granted temporarily the honorary rank of Lieutenant-Colonel:—Dated Oct. 30th: Major H. R. Kenwood, Royal Army Medical Corps, Territorial Force, and John Robertson. Dated Nov. 5th: Lieutenant Arthur Stanley Woodwark.

Lieutenant James R. Hill, from the Reserve of Officers, to be Captain.

Joseph Dalrymple to be temporary Captain (dated Oct. 15th).

The undermentioned to be temporary Lieutenants:—Dated Sept. 23rd: William Parry Morgan. Dated Oct. 9th: Douglas Gordon Cheyne. Dated Oct. 10th: Francis Frederick Brown, Thomas William Ramsden Strode, James Aubrey Torrens, Thomas Alfred Peel, Edgar Alan Pearson, William John Nisbet, Michael John Murray, Newton Matthews, and Ernest William Adcock. Dated Oct. 14th: Magnus Ross Mackay. Dated Oct. 19th: John Edmund Cox, Herbert Thomas Retallack-Moloney, Arthur Frank Palmer, Percy John Chissell, and Cecil Hallworth Treadgold. Dated Oct. 20th: Claude Kingston. Dated Oct. 21st: Daniel Boylan, William Herbert Brown, Joseph Henry Campain, Gerald Cock, Victor Lindley Connolly, David Horace Collingham, Walter James Ignatius Dwyer, Sydney Herbert Gibson, John Charles Boileau Grant, Alexander Keith Hamilton, James Gilkison Higgins, Douglas Frederick Kennard, Charles Joseph Kelly, Thomas Jones Latham, Charles Gordon Holland Moore, Albert Guy Miller, Albert John McClure Chesney Morrison, Alexander Thomson McWhirter, Frederick George Norbury, John William O'Farrell, Patrick Joseph O'Reilly, John Alexander Pringle, Edmund George Chambers Price, David William Reid, Thomas Thomson Rankin, Percy Charles Raiment, John Torrance Weir Stewart, Alexander Stephen, Garnet Wolsley Twigg, Ronald Joseph Tennant Thornhill, Charles Henry Thompson, Henry Ashbourne Treadgold, George Hector Urquhart, Alfred William Weston, William Miller Will, John Joseph Walsh, Richard Williams, and William Stuart Milne. Dated Nov. 1st: Claude Gray Colyer, Horace Charles Colyer, Stanley Alfred Ridett, Charles Weller, Frederick William Broderick, and George Gilbert Timpson.

The undermentioned are granted temporary rank as follows whilst serving with the Red Cross Hospital, Netley:—Temporary Majors: Dated Oct. 27th: C. H. Miller and C. Wallace. Temporary Captains: Dated Oct. 27th: C. Christopherson, J. L. Dickie, J. A. Hayward, C. Hitch, H. L. Tidy, and A. C. Hudson. Temporary Lieutenants: Dated Oct. 27th: W. Anderson, M. S. Esler, J. G. Ferguson, C. Gibson, J. D. Lyle, J. F. Mackay, L. E. C. Norbury, and C. Pearson.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Lieutenants to be Captains:—John Henry Bell, John Phethean Charnock, Harold Fitz Vallacott, and John James McIntosh Shaw.

The undermentioned Lieutenants are confirmed in their rank:—Maurice A. O'Callaghan, William Fotheringham, Archibald W. Russell, George A. Bridge, Archibald J. Gilchrist, Eric K. Ryan, John W. Cannon, Charles A. McGuire, Herbert M. Pope, William T. Quinlan, Edward B. Marsh, James McCusker, Leonard J. Sheil, William F. Wood, Adiel E. H. Reid, and Verner Wiley.

SUPPLEMENTARY TO REGULAR UNITS OR CORPS.

Royal Army Medical Corps.

The undermentioned Lieutenants are confirmed in their rank:—Alexander Keith Robb and Thomas Clifford Owen.

The undermentioned to be Lieutenants (on probation):—Henry Alcock, John Kennedy, and Thomas Fuller Kennedy.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd South Midland Mounted Brigade Field Ambulance: George Augustus Auden to be Lieutenant.

South-Eastern Mounted Brigade Field Ambulance: Captain Frederick B. Treves to be Major.

1st East Anglian Field Ambulance: To be Lieutenants: Alfred Errol Delgado and James Llewellyn Montfort Symns.

3rd East Anglian Field Ambulance: William Thomson Crawford to be Lieutenant.

1st Home Counties Field Ambulance: Arthur Maude to be Lieutenant. John Samuel Hudson to be Captain (temporary).

1st West Lancashire Field Ambulance: Lieutenant Harold Seddon, from Attached to Units other than Medical Units, to be Lieutenant.

1st Wessex Field Ambulance: Lieutenant Alfred J. H. Iles, from the Wessex Clearing Hospital, to be Lieutenant.

3rd Southern General Hospital: Captain Henry M. Clarke is seconded.

Eastern Mounted Brigade Field Ambulance: Basil Fawssett to be Lieutenant.

1st London (City of London) Field Ambulance: Archibald Leitch to be Lieutenant.

3rd London (City of London) Field Ambulance: Kenneth Vickerman Smith to be Lieutenant.

3rd Highland Field Ambulance: The undermentioned to be Lieutenants: Frederick Charles Chandler and George MacLeod Levack.

4th London Field Ambulance: Lionel Glover Pearson to be Lieutenant.

2nd South Midland Field Ambulance: Lieutenant-Colonel Seymour G. Barling, from the South Midland Clearing Hospital, to be Lieutenant-Colonel. Captain Alfred A. Hingston, from Attached to Units other than Medical Units, to be Major.

3rd Welsh Field Ambulance: Lieutenant-Colonel Arthur Lloyd Jones resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform.

3rd Wessex Field Ambulance: Charles Henry Mankew to be Lieutenant.

1st London (City of London) Sanitary Company: Captain Joseph Grounds to be Major (temporary). Lieutenant Evelyn C. Sprawson to be Captain (temporary). Lieutenant Arthur T. Pitts to be Captain (temporary).

Attached to Units other than Medical Units.—Captain William A. Malcolm to be Major. To be Lieutenants: Arthur Scott Turner (late Lieutenant, 2nd Volunteer Battalion, The East Surrey Regiment), Robert George McDonald Ladell, and Cadet Arthur Henry Pemberton, from the London University Contingent, Senior Division, Officers Training Corps.

DEATHS IN THE SERVICES.

Surgeon-Major-General Sir John By Cole Reade, K.C.B. (A.M.S., retired), at Coleherne-road, Earl's Court, recently, in his 83rd year. He entered the Army Medical Department in 1854, and reached the rank of surgeon-general in 1888. He was present at the battles of Alma and Inkerman, and at the assaults on Redan and the siege of Sebastopol, where he was wounded (medal with three clasps and the Turkish medal), and he also served in the Indian Mutiny, being present at the siege and capture of Lucknow. In the Afghan war (1878–80) he was present at the entry into Kandahar (mentioned in despatches). For several years he acted as assistant to the Director-General of the Army Medical Department. He was appointed Honorary Surgeon to Queen Victoria in 1895, and was awarded the Jubilee Medal in 1897 and the Coronation Medals in 1902 and 1911. In 1892 he was granted the reward for distinguished and meritorious service. Sir John Reade, who retired in 1893, was the oldest honorary surgeon to the King.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8457 births and 4664 deaths were registered during the week ended Saturday, Nov. 7th. The annual rate of mortality in these towns, which had been 13·4, 13·8, and 13·5 per 1000 in the three preceding weeks, declined in the week under notice to 13·4 per 1000 of their aggregate population, estimated at 18,120,059 persons at the middle of this year. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 13·6, against 14·1 per 1000 in the metropolis. Among the several towns the death-rate last week ranged from 4·4 in Southend-on-Sea, 5·1 in Gloucester, 5·6 in Eastbourne, 5·7 in East Ham, 6·0 in Exeter, to 18·9 in Salford, 20·1 in Gateshead, 20·2 in Merthyr Tydfil, 21·1 in Liverpool, and 23·1 in Dudley.

The 4664 deaths from all causes were 44 fewer than the number in the previous week, and included 497 which were referred to the principal epidemic diseases, against 540 and 472 in the two preceding weeks. Of these 497 deaths, 169 resulted from infantile diarrhœal diseases, 146 from measles, 93 from diphtheria, 38 from whooping-cough, 34 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was 1·4 per 1000, and was equal to the rate in the previous week. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had steadily declined from 1223 to 204 in the seven preceding weeks, further fell to 169 last week, and included 49 in London, 16 in Liverpool, 11 in Birmingham, 10 in Manchester, and 6 in Sheffield. The deaths referred to measles, which had been 67, 101, and 123 in the three preceding weeks, further rose to 146 last week, and caused the highest annual death-rate of 1·2 in Liverpool and in Leeds, 1·3 in Preston, 1·4 in Plymouth, 1·7 in Oldham, 2·0 in Wakefield, 2·7 in Grimsby, 3·2 in Newcastle-on-Tyne, and 3·4 in Wigan. The fatal cases of diphtheria, which had been 59, 79, and 61 in the three preceding weeks, rose to 93 last week, of which 24 occurred in London, 10 in Birmingham, 5 in Wakefield, and 3 each in Walthamstow, Portsmouth, Bristol, and Middlesbrough. The deaths attributed to whooping-cough, which had declined from 50 to 32 in the five preceding weeks, rose to 38 last week, and included 6 in London, 4 in Newcastle-on-Tyne, 3 each in Leeds and Rhondda, and 2 each in Liverpool and Burnley. The deaths referred to scarlet fever, which had been 29, 37, and 38 in the three preceding weeks, fell to 34 last week, of which 6 were registered in London, 3 in Liverpool, and 2 each in Dudley, Salford, and Newport (Mon.). The fatal cases of enteric fever, which had been 14, 19, and 14 in the three preceding weeks, rose to 17 last week, and included 3 each in London and Hull, and 2 in Leeds.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had steadily increased from 3071 to 4683 in the 11 preceding weeks, had further risen to 4769 on Saturday last; 690 new cases were admitted during the week, against 650, 657, and 598 in the three preceding weeks. These hospitals also contained on Saturday last 1525 cases of diphtheria, 74 of enteric fever, 57 of whooping-cough, and 55 of measles, but not one of small-pox. The 1202 deaths from all causes in London were 22 fewer than the number in the previous week, and corresponded to an annual death-rate of 13·9 per 1000. The deaths referred to diseases of the respiratory system, which had increased from 110 to 197 in the seven preceding weeks, fell to 193 in the week under notice, and were 14 below the number registered in the corresponding week of last year.

Of the 4664 deaths from all causes in the 97 towns, 213 resulted from different forms of violence and 369 were the subject of coroners' inquests, while 1444 occurred in public institutions. The causes of 28, or 0·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Manchester, Sheffield, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, and in 76 other smaller towns. Of the 28 uncertified causes of death, 9 were registered in Liverpool, 5 in Birmingham, and 2 each in Preston and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1140 births and 696 deaths were registered during the week ended Saturday, Nov. 7th. The annual rate of mortality in these towns, which had been 14·7, 15·0, and 14·6 per 1000 in the three preceding weeks, rose to 15·8 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 15·2, against 13·6 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 8·1 in Hamilton, 10·1 in Motherwell, and 11·7 in Clydebank, to 18·7 in Greenock, 19·0 in Leith, and 20·0 in Aberdeen.

The 696 deaths from all causes were 56 in excess of the number in the previous week, and included 79 which were referred to the principal epidemic diseases, against numbers declining from 96 to 78 in the four preceding weeks. Of these 79 deaths, 24 resulted from infantile diarrhœal diseases, 18 from diphtheria, 17 from scarlet fever, 12 from whooping-cough, 5 from measles, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·8, against 1·4 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had been 29, 31, and 26 in the three preceding weeks, further declined to 24 last week, of which 13 were registered in Glasgow, 3 in Dundee, and 3 in Aberdeen. The deaths referred to diphtheria, which had been 19, 19, and 16 in the three preceding weeks, rose to 18 last week, and included 7 in Aberdeen, 4 in Glasgow, and 2 in Edinburgh. The fatal cases of scarlet fever, which had been 16, 16, and 14 in the three preceding weeks, rose to 17 last week, of which 7 occurred in Glasgow and 7 in Aberdeen. The deaths attributed to whooping-cough, which had been 10, 9, and 14 in the three preceding weeks, fell to 12 last week, and included 9 in Glasgow. The 5 deaths referred to measles were all recorded in Glasgow, and were slightly in excess of the average in recent weeks. The fatal cases of enteric fever occurred in Dundee, Perth, and Coatbridge.

The deaths referred to diseases of the respiratory system, which had steadily increased from 62 to 92 in the seven preceding weeks, further rose to 104 in the week under notice; 30 deaths were attributed to different forms of violence, against numbers declining from 29 to 17 in the three preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 597 births and 420 deaths were registered during the week ended Saturday, Nov. 7th. The annual rate of mortality in these towns, which had been 16·2, 15·8, and 15·2 per 1000 in the three preceding weeks, rose to 18·2 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in these towns averaged 16·2, against corresponding rates of 13·6 and 15·2 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 18·0 in Dublin (against 13·9 in London and 16·3 in Glasgow), 19·2 in Belfast, 19·7 in Cork, 14·0 in Londonderry, 17·6 in Limerick, and 36·1 in Waterford, while in the 21 smaller towns the mean death-rate was 14·7 per 1000.

The 420 deaths from all causes were 68 in excess of the number in the previous week, and included 48 which were referred to the principal epidemic diseases, against 44 and 51 in the two preceding weeks. Of these 48 deaths, 21 resulted from infantile diarrhœal diseases, 11 from measles, 6 from scarlet fever, 6 from whooping-cough, 3 from enteric fever, and 1 from diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·1, against corresponding rates of 1·4 and 1·8 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily declined from 74 to 19 in the seven preceding weeks, rose to 21 last week, and included 10 in Dublin and 9 in Belfast. The deaths referred to measles, which had been 7 in each of the three preceding weeks, rose to 11 last weeks, and comprised 10 in Belfast and 1 in Cork. The fatal cases of scarlet fever, which had been 7, 5, and 12 in the three preceding weeks, fell to 6 last week, of which 5 occurred in Waterford and 1 in Belfast. The deaths attributed to whooping-cough, which had been 3, 9, and 4 in the three preceding weeks, rose to 6 last week, and comprised 3 in Belfast, 2 in Cork, and 1 in Dublin. The 3 deaths referred to enteric fever, of which 2 occurred in Dublin and 1 in Belfast, were equal to the average in the three preceding weeks. The fatal case of diphtheria was registered in Dublin.

The deaths referred to diseases of the respiratory system, which had been 71, 60, and 61 in the three preceding weeks, rose to 86 in the week under notice. Of the 420 deaths from all causes, 131, or 30 per cent., occurred in public institutions, and 9 resulted from different forms of violence. The causes of 17, or 4·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 large English towns the proportion of uncertified causes did not exceed 0·6 per cent.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Canada and the War.

EVERYWHERE Canada feels the war. Doctors have forsaken good positions as medical officers of health to join their regiments, professors in the medical departments have already gone, also hospital superintendents. University corps are being rapidly established and trained. One notable professor has even joined one of these as a private—Professor J. George Adami. Schools of instruction in field ambulance and field hospital work have been established by the Government. The editor of the *Canadian Medical Association Journal*, Dr. Andrew Macphail, Montreal, has been taking this course of instruction in Toronto, along with a large class of civilian practitioners. Dr. Charles A. Hodgetts, medical adviser to the Canadian Conservation Commission, has been appointed Commissioner in Britain for the Canadian branch of the Red Cross Society, succeeding the late Colonel Burland of Montreal. The Director-General of the Canadian Army Medical Services, Colonel Carleton Jones, is with the Canadian Expeditionary Force; also Major Lorne Drum, general secretary of the Canadian Public Health Association, thus necessitating the cancellation of the annual meeting of this society, which was to have been held in Fort William and Fort Arthur in September. Medical societies in the leading centres have all contributed round sums to the Canadian Patriotic Fund. They have also pledged themselves to look after the practices of their *confrères* who have enlisted for service. They early put themselves on record as eager and anxious to care for the health of dependent ones of those qualifying for the front. Committees have been organised to look after the scarcity of drugs, and interest is being taken in the suspension of the Canadian rights of German patents in the pharmaceutical line. There are rifle clubs and home guards organised in every city and town. Shooting is being practised from premiers down. In fact, wherever one turns activities are observed in training, drilling, shooting, and the provision of relief for those at the front or their dependents. Thus it has been abundantly demonstrated that whenever England is at war Canada is at war.

The Canadians and Antityphoid Vaccination.

Whilst in camp at Valcartier, Quebec, the first Canadian Expeditionary Force were subjected to antityphoid inoculation. This was in charge of Dr. Charles A. Hodgetts, of Ottawa, and he was assisted by Dr. T. A. Lomer, medical officer of health, Ottawa; Dr. Campbell Laidlaw, pathologist, Ottawa General Hospital; Dr. Harry Morrell, pathologist, Regina General Hospital; and Dr. R. Woodhouse, medical officer of health, Fort William. The vaccine used was prepared in the laboratory of the Ontario Board of Health (presented by the Ontario Government), and was made up so that 1 c.c. equalled 500 million bacteria. The technique was simple, consisting in the application of the tincture of iodine over the injection area, followed by the injection. A second dose was administered in ten days of double strength. In the series of 45,000 injections probably the largest on record in the limited space of time, no severe cases of constitutional reactions were reported, though it was noticed during wet and cold weather the symptom of reaction was more pronounced than on dry and warm days.

Manitoba Sanatorium for Consumptives.

This institution was established in 1910 and in 1911, the first whole year, there were 168 patients admitted. In 1912 the number was 189; in 1913, 232; the admissions increasing largely in two years. The original policy of the hospital of admitting early cases only has never been adhered to because this sanatorium and the King Edward Hospital at Winnipeg being the only two institutions for the care of tuberculosis patients in Manitoba, they had to care for the entire field. The King Edward is a municipal hospital and cares for the advanced cases of the municipality of Winnipeg. The usual hygieno-dietetic means of treatment have been employed, artificial pneumothorax not having been used, but in suitable cases it will be used in the present year. In the year 1912 there were 492 deaths from tuberculosis in Manitoba, the totals running from 1909 to 1912 as follows: 402, 412, 438, and 492. Of the total deaths from all causes in Manitoba in 1912, the 492 cases of tuberculosis represented 8·5 per cent.—103·8 in 100,000 persons living. It is estimated that there are in the province 1800 cases. The 492 deaths were divided as follows: Pulmonary, 388; acute miliary, 7; meningitis, 54; abdominal disease, 25; Pott's disease, 6; white swelling, 2; tuberculosis of other organs, 7; and disseminated tuberculosis, 3. On Jan. 1st, 1913, there were 67 patients in the sanatorium—32 males and 35 females. There were 232 patients admitted during the year, 119 males and 113 females; and 203 patients were discharged—102 males and 101 females. 96 patients remained on Jan. 1st, 1914—49 males and 47 females. The total number admitted since the opening of the institution in June, 1910, was 686. On admission 2 were found non-tuberculous, 34 incipient, 52 moderately advanced, and 42 apparently hopeless. On discharge there were 3 not treated, 17 apparently cured, 58 quiescent, 70 improved, and 31 unimproved; 24 died. All save one of those classed as apparently hopeless on admission died.

Medical Inspection of Schools in Ontario.

The Education Department of the Province of Ontario has just issued a new code of regulations for the medical inspections of schools throughout that province. It is embodied in book form. It provides for one school board or a number of boards acting together to make provision for free medical treatment for pupils whose parents are unable to pay, and gives power to these boards to appoint a school medical inspection committee representing all boards. These committees must appoint a qualified medical practitioner of not less than two years' standing; but the medical officer of health of the municipality may be appointed with the consent of the Minister of Education and the Provincial Secretary, who has to do with all health matters in the province. The Act makes medical inspection compulsory in rural schools once every three months, in villages once a month, in towns once every two weeks, and in cities once a week. Provision is also made for the appointment of one or more nurses, and the medical inspector is subject to the school inspector or the principal. The medical inspectors are also required to act regarding the health of all children and conditions in schools as well as that in the home environment.

Toronto, Oct. 26th.

Correspondence.

"Audi alteram partem."

SIR JAMES Y. SIMPSON AND ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—I overlooked the courteous letter of Sir William Osler in THE LANCET of Oct. 31st correcting my reference to Sir James Y. Simpson as the discoverer of anæsthetics. The illustrious name of Simpson jumped to my mind in illustration of the point I wished to make, and at the moment I forgot that he had been anticipated with regard to ether. The interesting letter, again, of Dr. Leonard Guthrie in your issue of Nov. 7th corrects the Regius professor, and the two letters together are an additional exemplification of the point I wished to make that the discovery was due, was in the air, and focussed to practical usefulness almost simultaneously by several able experimenters. It seems incontestably shown by Dr. Marion Sims's article referred to by Dr. Guthrie that whereas nitrous oxide had been suggested as an anæsthetic by Sir Humphry Davy at the very commencement of the nineteenth century, the subsequent order of precedence in the discovery of various anæsthetics would seem to be Long (sulphuric ether) 1842, Wells (nitrous oxide) 1844, Morton (sulphuric ether) 1846, and Simpson (chloroform) 1847.

I still think that Simpson was the introducer of anæsthetics for general use in midwifery and in surgery, and it was not until his use of chloroform was established that disputes arose as to whom the reward of the discovery was due.

It is incidentally to be noted from the same source that the excitant properties of ether had been long known and utilised in America, and that on one occasion Dr. Wilhite had, in 1839, accidentally pushed the drug to the degree of extreme narcotism in the case of a negro.

I am, Sir, yours faithfully,

Portland-place, Nov. 9th, 1914. R. DOUGLAS POWELL.

THE SERUM DIAGNOSIS OF TUBERCLE BY THE FIXATION OF ALEXIN (COMPLEMENT).

To the Editor of THE LANCET.

SIR,—I have read with great interest the article by Dr. James McIntosh, Dr. Paul Fildes, and Dr. J. A. D. Radcliffe in THE LANCET of August 22nd last, but I regret to see that in the bibliography they have mentioned many German workers and have omitted Dr. W. d'Este Emery and myself, although THE LANCET published an article on this subject by myself on Dec. 31st, 1910, and by Dr. d'Este Emery in February, 1911. We worked independently, and we both found old tuberculin useless as an antigen.

In February, 1913, I sent THE LANCET an article on this subject. It was the outcome of two years' work and an experience derived from examining over 200 undoubted cases of tubercle and 100 normals and persons suffering from disease other than tubercle. As the article did not appear in THE LANCET I sent a copy to the *Indian Medical Gazette* in July, 1913, and it was published.

My technique is as follows:—

Antigen.—Human tubercle bacilli grown on glycerine veal broth, killed at 100° C., filtered, washed, and dried in vacuo. Half a grain is powdered very finely while dry in a watch glass with a glass rod till the particles become electrified by the friction. Thirty drops of 1 per cent. NaCl in ½ per cent. carbolic are then added, rubbing all the time. The whole of this is then transferred to a small tube, which is sealed with a piece of sealing-waxed paper; it is incubated for 24 hours, though 12 hours will suffice in an emergency. Three zones can now be distinguished—an upper opalescent, a central milky, and a third, clumps of bacilli. The two upper zones are pipetted off. This forms the antigen. It will keep for two or three days, but I prefer to use it only on the same day.

Serum.—40 c.mm. of fresh (i.e., not more than 36 hours old) patient's serum is placed in a small tube, this is heated in a water-bath to 52° C. for 15 minutes. I find 56° C. destroys some antibody. To this tube is now added 10 c.mm. of fresh serum (from the same patient), 10 c.mm. of antigen, and 250 c.mm. of 0·75 per cent. NaCl. A control of 10 c.mm. of fresh serum and 250 c.mm. of salt solution is also put up to show that complement is present. The tubes are now left at room temperature 60°–80° F. for one and a half hours or incubated at 98° F. for half an hour. Human alexin is very labile, and hence I found that incubation for one hour (when diluted) tends to destroy it. Sensitised goat's or sheep's red blood corpuscles are now added, 10 c.mm. of 5 per cent. emulsion. The corpuscles are well washed after sensitising, so as to remove all hæmolytic amboceptor. The tubes are now incubated for one hour and examined after all the cells have deposited (ice-chest over night or centrifuged). The slightest pink tinge is classed as doubtful; anything more than this is negative. With each batch, if possible, one or two normals should be put up; and until one is sure of one's technique, a known case of tubercle also. The only difficulty lies with the antigen; if it is found to fix the complement of normal serum, the bacilli in bulk should be well washed so as to remove anticomplementary substances (tissue extracts of the veal broth).

Note.—The proportion of tubercle antibody as compared to alexin in human serum is (except in chronic cases) as 1 to 4; hence the necessity of augmenting the antibody by using 4 parts of heated to 1 part of unheated serum.

I have examined serum from patients suffering from tubercle in almost every part of the body. I found the test most delicate in cases of lung, kidney, and spinal disease. When there is a small focus only—e.g., epididymis—I do not find the test delicate. In acute diseases of the lung the test fails, but as soon as the acuteness has abated the test comes off. Some normals occasionally give a positive result, but I have had very much fewer of these cases since rewashing the tubercle bacilli; but—and this is a very important point—a patient suffering from disease other than tubercle—e.g., appendicitis, pneumonia, abscess, osteomyelitis, &c.—shows a marked negative. My conclusions are as follows:—

1. This is a most delicate test for active tubercle, and is of great value in the diagnosis of the early stages of tubercle of the lung.

2. The tubercle antibody tends to disappear from the body very quickly. It is easily destroyed by heat, hence a temperature of 52° C. is preferable to 56° C. Human alexin is destroyed at 52° C. in 15 minutes.

3. Commercial tubercle bacilli may be used to prepare the antigen. As the tissue extracts in culture media contain substances which fix complement in normal serum, the bacilli should be washed if the antigen is found to be non-specific. One knows that in doing an opsonic determination some brands of bacilli are useless till the emulsion has been washed in the same way as corpuscles are washed. The specific and active antigen appears to reside in the bodies of the bacilli, hence the necessity (especially if the bacilli have been well washed) of incubating the antigen for 24 hours. I do not find any reason to employ living bacilli. The nonspecific anticomplimentary substances appear to exist outside the bacteria (peptone, extractives, &c.)

4. A positive result can be relied upon when the patient is actually ill—i.e., losing weight, loss of appetite, fever, &c.; and when in the case of the lung there are even the faintest physical signs—e.g., impaired resonance in an apex, harsh

inspiration, &c. A positive result in health can be discounted.

5. A negative result can be relied upon if the patient is ill except in cases of very acute tubercle, when a positive result ensues later.

Fluctuation of the reaction.—In very acute tubercle the antibody cannot be detected; Dr. d'Este Emery also found this. In less acute it is present in a proportion of 1 to 4 compared with alexin; as the case progresses the proportion gradually increases to equal parts—i.e., 10 c.mm. of antigen will fix the complement in 10 c.mm. of fresh serum without the addition of any heated serum. As the case improves the antibodies pass off, till finally they can only be demonstrated by exercising the diseased organ or structure, or after subjecting it to passive congestion, or lighting it up by an injection of old tuberculin or peptone broth.

These latter measures give one a simple plan of further testing a case suspected to be tubercle, but giving a negative reaction.

As the first six months of this work was done in the inoculation laboratory at St. Mary's Hospital, London, W., most of the cases being Sir Almroth Wright's, I had, thanks to the kindness of Sir Almroth Wright, ample opportunity of comparing the two methods. My antigen and the tubercle emulsion used in the opsonic test are, except for the degree of dilution, the same; hence they must react on the same antibody.

I found that a low opsonic index went with a high immunity index, and *vice versâ*. This forces one to the conclusion that thermolabile opsonin is complement, and that the variations in the opsonic index are due to the absorption of complement during the incubation of the opsonic capillary tubes—i.e., the more the antibody present, the more the thermolabile opsonin absorbed. This is a very important consideration in treatment, for a lowering of the opsonic index should be the aim and not the dread. It further makes one reconsider the whole principle of the opsonic theory. I look upon a phagocytic index as only another means of demonstrating the Bordet-Gengou reaction.

As regards treatment by tuberculin, this test gives a laboratory demonstration of the poor value of tuberculin. Tuberculin is not an antigen to the true tubercle antibody; why, then, use it? In these days of autogenous vaccines I cannot understand why tuberculin has not long ago been discarded; I am inclined to think the reason is because it is a foreign introduction. I have found freshly prepared tubercle emulsion given in the same doses as tuberculin to be much more effective, but at present I am not in a position to state the case fully.—I am, Sir, yours faithfully,

V. B. NESFIELD, F.R.C.S. Eng.,
Major, I.M.S.; late Chemical Examiner and Bacteriologist, Government United Provinces, India.
Almora, U.P., Sept. 23rd, 1914.

THE LONDON PANEL COMMITTEE AND THE PRESCRIBING OF PANEL DOCTORS.

To the Editor of THE LANCET.

SIR,—I have received a notice from the secretary of the London Panel Committee that they are, at the request of the Pharmaceutical Committee, making "investigations in respect of the drugs and appliances ordered by 65 practitioners during the period 12th to 30th April, 1914." I am then informed that, while for this period "the average cost of the prescriptions issued by all the practitioners on the panel was 9·7 pence," in my "individual case the average cost per prescription was nearly 1*s.* 1*d.*" I should like to dilate on the futility of an inquiry of this sort, in which no account is taken of the length of period for which medicine is supplied by each prescription; as a number of weekly prescriptions, costing, say, an average of 2*s.*, are a less demand on the drug fund than a correspondingly larger number of two-day prescriptions covering the same periods and costing an average of 9*d.* I should also like to know whether several prescriptions on one form, such as I am habitually writing, are counted as one or as many. In either case, by re-writing the prescriptions on new but more forms, and breaking them up, it would be perfectly easy, without at all altering the total amount prescribed, to reduce one's "average"—calculated in this absurd way—to almost any figure one wished.

But I am writing on a far more important matter which deeply concerns the other 64 practitioners alluded to. The Panel and Pharmaceutical Committees claim in this notice that they are carrying out the provisions of Article 40 of the Regulations of 1913. Now this article only empowers an "investigation" ..... "where it appears to the Panel Committee ..... that the cost of the supply of ..... the drugs or appliances ordered for insured persons ..... *is* in excess of what *may* reasonably *be* necessary for the adequate treatment of those persons"—that is to say, it authorises an investigation into prescriptions written for insured persons, to be made *while those persons are taking those prescriptions.* It cannot, therefore, apply to any inquiry into a number of prescriptions six months or more after the persons prescribed for have ceased to be under that treatment! Even if the wording of the article were not plain (which it is), common sense—which does not appear to be a strong point of the committees concerned—should show the impossibility of determining "what may reasonably be necessary for the adequate treatment" of anyone except when that person's ailment, symptoms, and idiosyncrasies (which, *pace* these Pharmaceutical and Panel Committees, even panel patients are human enough to have) can be actually examined and reported upon.

Another important point is that the Panel Committee are only empowered to "make a report to the (Insurance) Committee," on which alone the latter can act, "after hearing any practitioner concerned." Now no practitioner can be "heard" unless he voluntarily goes to the inquiry, and, when there, speaks. The Act and Regulations give the Panel Committee no power to compel him either to attend or to speak if he does attend, and yet no power to do anything without "hearing" him. I therefore advise my 64 brethren to reply, as I have done, that the "investigation" authorised by Article 40 is one to be undertaken during the treatment of the persons concerned, that this inquiry is therefore illegal, and that they must decline to give the Panel Committee the assistance of their presence, and will hold them legally responsible for any consequences that may ensue from their continuing to so conduct it. For my part, I welcome the "unsolicited testimonial" thus given me to the thoroughness of my treatment of my insured patients, for whom I, at all events, practically never order anything not in the British Pharmacopœia.

I am, Sir, yours faithfully,

HENRY BAZETT, M.A. Oxon., M.R.C.S. Eng., L.R.C.P. Lond.
St. Mary's-terrace, Paddington, Nov. 9th, 1914.

THE USE OF ALCOHOL ON THE BATTLE-FIELD AND ELSEWHERE.

To the Editor of THE LANCET.

SIR,—From one who may be supposed from constant association with the ill-effects of alcohol to be opposed to its use in any and every way, a few words may perhaps strengthen the eminently reasonable letter in THE LANCET of Oct. 10th of Dr. H. Lyon Smith on the above subject—reasonable because it is backed by personal scientific research which bears him out entirely.

My experience of many years' study of inebriety and inebriates leads me to uphold Dr. Lyon Smith's thesis. While there is, of course, no shadow of doubt that alcohol in toxic doses, or what amounts to the same thing in continuously taken moderate doses, acts harmfully on the animal organism, I have been unable to appreciate any harmful effects from a *strictly moderate* use of alcohol by persons of sound mental and physical health, such as our soldiers supposedly are. Dr. Mercier's statement that asylum observations show that insanity produces inebriety, rather than that inebriety produces insanity, as quoted by Dr. Lyon Smith, is undoubtedly a correct one. *Moderate* use of alcohol has never to my knowledge been proved to be a cause of insanity, but insanity in some degree may, I think, be said to be always present in true inebriety. What matters, not only on the battlefield but in everyday life, civil or military, is not that alcohol should be tabooed, but that it should be recognised by both the public and the medical profession as what it is—namely, a drug—one of the most powerful stimulant-narcotic drugs in the Pharmacopœia.

Dr. Lyon Smith has apparently satisfied himself that medicinal doses of 1½ to 2 oz. of whisky or other alcoholic liquor of like strength have a beneficial rather than a harmful effect on phagocytosis, so that it would be well unless those "scientific temperance lecturers" can prove the contrary that they should cease to use this argument against the use of alcohol except in so far as it applies to large doses, which neither Dr. Lyon Smith nor myself desires to defend or advocate. There appears to me to be only one danger of Dr. Lyon Smith's suggestion and advocacy in "emergency alcohol rations" for the troops—namely, that such rations might not, and I regret to say in all probability *would* not, be used with the same regard for dosage as other medicinal agents. This danger is, however, no argument against Dr. Lyon Smith's thesis, but for a better appreciation and knowledge of the actions and reactions of alcohol, such as would ensure a skilful and careful use of these rations.

The misuse and abuse of alcohol existing in this country in spite of "the wave of temperance which has gained much from the efforts of many distinguished members of our profession," is likely to continue until these distinguished members succeed in teaching, first our own *confrères* and through them the public that alcohol is a drug, not necessary or beneficial to the healthy individual, valuable in strictly moderate doses on occasion (by strictly moderate doses I mean from ½ to 2 oz. of good whisky, cognac, or gin), and extremely harmful in large or in frequently repeated small doses, exactly as is the case with other drugs of a similar nature—namely, the stimulant-narcotic group, and that, moreover, there are many more individuals than is generally supposed of such unstable psycho-physical constitution as to be extremely susceptible to its toxic actions even in these extremely moderate doses, and that to these persons alcohol should without question be taboo.

I am, Sir, yours faithfully,

J. W. ASTLEY COOPER,
Medical Superintendent, Ghyllwoods Sanatorium for Treatment of Inebriety.

MEDICAL AUTOGRAPHS.

To the Editor of THE LANCET.

SIR,—The Reading Pathological Society has during many years collected in an album the autographs of distinguished medical practitioners, especially of such as have contributed to the progress of medicine, and are therefore "on fame's eternall bead-roll worthie to be fyled."

Such autographs, especially when accompanied by portraits, form a delightful addition to our knowledge of those personalities who are the *decus et desiderium medicinae*, and possess no small biographical and historical value. Medical societies will find in the formation of such an album a means of cementing the friendships of the living, and of perpetuating the memory of those who have passed beyond the veil.

Our collection already contains many interesting specimens of professional autographs, but further contributions (whether of British, American, or foreign origin) will be warmly welcomed.

I am, Sir, yours faithfully,

Westfield, Reading, Nov. 7th, 1914. JAMIESON B. HURRY.

PROGNOSIS IN CANCER OF THE TONGUE.

To the Editor of THE LANCET.

SIR,—Dr. Francis E. Shipway's letter in THE LANCET of Nov. 7th raises the important question whether the intratracheal administration of the anæsthetic or the administration of it through a temporary opening in the windpipe is the more satisfactory procedure in cases of cancer of the tongue. In an article under the above heading in your issue of Oct. 24th I had expressed a decided preference for the latter method. Dr. Shipway disagrees with my conclusion, and gives a number of arguments in favour of the intratracheal method.

I should like to state at once that I have no general objection whatever to Meltzer's procedure in cases where there is no ulcerating growth in the mouth or pharynx. I have done a number of operations under anæsthesia maintained in this way, and have been duly impressed by its many advantages. Again, I must express my satisfaction at finding myself in agreement with so authoritative an opinion as Dr. Shipway's as to the importance of a restricted airway in the causation of lung infections by aspiration. It is too often thought even now that, provided no serious grade of asphyxia is produced, a grossly obstructed airway has no importance, whereas a little consideration will make it obvious that obstruction increases the force with which foreign material from the mouth and pharynx is sucked into the air passages.

Dr. Shipway objects to a temporary opening of the windpipe as an addition to the length and severity of the operation. In cases of cancer of the tongue laryngotomy is practically always the operation of choice, tracheotomy being necessary only when the pharynx is involved and the opening has to be maintained for some days. Laryngotomy can

invariably be done in a few minutes; if an ordinary bivalve tracheotomy tube be used the incision of the crico-thyroid membrane can be limited to the smallest puncture, so that the tube fits tight enough to prevent leakage of blood into the trachea and the opening closes very rapidly after the operation. In this way is avoided the most serious objection to the procedure—interference with the effectiveness of coughing. In my experience patients even when old and feeble settle down after the opening has been made into an extremely placid condition, in which they seem able to tolerate prolonged, extensive, and elaborate operations in a very remarkable way. I have no doubt that this relative immunity from shock is to a large extent due to the easy and quiet respiration.

With regard to the gland operation, which as I have shown may be followed by pneumonia if done as a preliminary to the removal of the primary growth, Dr. Shipway points out that either a preliminary laryngotomy must be done and repeated when the primary growth is dealt with, or the glands and the primary growth must be removed at the same time. I agree entirely with him that the latter alternative is usually undesirable, and would go so far as to say that it is often impossible. The former alternative—laryngotomy at each stage—is the method I generally use and one which gives very satisfactory results.

Turning now to the objections which I venture to think may be made to the intratracheal method, I should like to state quite definitely that in my view these apply solely to cases in which there is a foul ulcerating growth in the mouth. In cases where the growth is small, warty, or superficial, and ulceration is slight or absent, and in cases where the primary growth has been removed and the gland operation alone remains to do, I have nothing to urge against the method. Where, however, the growth is large or deeply ulcerated I believe there are grave disadvantages in it being disturbed in any way before it has been completely exposed for removal. I do not believe the direct laryngoscope can be passed without considerable risk of very gross disturbances. It seems to me that the growth must be liable to be squeezed, bruised, or even torn, and that septic material may be expressed from the ulcer and conveyed by the instrument to the upper opening of the larynx, whence by a few spasmodic inspirations upon the introduction of the tube it may well be carried into the lungs.

In this special class of case, therefore, I believe temporary laryngotomy to be the sounder method, since it suspends aspiration from the mouth without any interference with the growth. For these reasons I am not able to quote from my own experience with regard to the use of the intratracheal method in cases of this class. It happens, however, that in the same number of THE LANCET as that in which Dr. Shipway's letter appears there is an interesting article by Mr. Rupert Llewellyn Jones giving in detail his experiences of 49 cases of various kinds in which Meltzer's method was used. Two of these were cases of cancer of the tongue. One (Case 7) died from pneumonia. It is specifically stated that the catheter was passed without difficulty, so that we may assume that the amount of disturbance of the growth was not abnormal. The condition present in the mouth is described as a large and foul ulcer.

In the second case (No. 16) "intubation was tried repeatedly for 30 minutes but unsuccessfully, owing to infiltration of the base of the tongue," and laryngotomy was done. It is difficult to believe that this period of manipulation was unaccompanied by considerable disturbance of the growth, and that it failed to contribute to the fatal result which followed from heart failure 28 hours later.

These two cases contrast very markedly with the admirable results recorded in other conditions in Mr. Jones's paper, but I would wish to guard myself against being supposed to attach undue importance to their want of success as they occur early in the series. I quote them therefore chiefly as illustrations of the type of case in which I feel that preliminary laryngotomy is a safer procedure than Meltzer's method, and of the difficulties and complications I should fear if the latter were used.

I am, Sir, yours faithfully,

Harley-street, W., Nov. 9th, 1914. WILFRED TROTTER.

INTRATRACHEAL ANÆSTHESIA.

To the Editor of THE LANCET.

SIR,—Perhaps you will allow me again to occupy some of your limited space, for I see that Mr. Rupert Jones mentions my name in his article this week (p. 1087) in connexion with two cases anæsthetised by me at the Bristol General Hospital last year. The description of these cases comes from the pen of Mr. Jones. Case 49 was an uneventful anæsthesia well suited for demonstration purposes. Case 1 was of unusual interest, and although Mr. Hey Groves and myself had misgivings as to its suitability, I decided to take my chance and not to disappoint those medical men who had so kindly taken the trouble to be present. On referring to my notes I find that owing to cough and dyspnœa the patient had to be anæsthetised in the semi-recumbent position. As induction with chloroform proceeded (C.E. caused too much coughing) respiration became increasingly embarrassed, there was cyanosis, and a high-pitched whistling inspiration. The patient was intubated as soon as possible, and an immediate improvement in his condition resulted, but subsequent anæsthesia was difficult and not satisfactory, as the paralysed cord introduced an undesirable complication. Tracheotomy might have been a better solution, although Mr. Hey Groves said afterwards that "it was through the application of the method that the operation had been made possible." Case 7, in which pneumonia occurred, is interesting, but I should like to have fuller details before making any comment.

You raise the question, Sir, in your annotation (p. 1103) whether this method should be used for ordinary routine work. I do not think so. Undoubtedly Mr. Jones used these cases in order to learn the technique. Admittedly the catheterisation of the trachea is a difficulty in some patients, but there is much excellent advice on this subject in various articles by American writers which can be studied with profit. The only difficult cases to one familiar with the method are those in which a preliminary gland operation for cancer of the mouth has produced much scar tissue. So many cases of cancer of the mouth, however, are edentulous, either partially or completely, that they should not present any difficulty.

I am glad to see your remarks, Sir (in reference to the paper by Mr. W. Dakin Mart), on the principles of intratracheal insufflation. The difference between this and intratracheal administration without positive pressure cannot be too strongly emphasised. Meltzer and Auer's method has definite cardinal

principles. A careful study of the literature, especially of their original articles, is essential for success, and obligatory upon all who use the method. Otherwise a very valuable discovery and a fine piece of scientific work will be brought into discredit. Chloroform and C.E. have been tried in a few cases at Guy's, but I am not justified in saying anything definite about them at present, except that chloroform appears to be unsafe, for the reason I think that the stimulating effect of inspiration upon the circulation is practically abolished. I am, Sir, yours faithfully,

FRANCIS E. SHIPWAY.

Queen Anne-street, W., Nov. 7th, 1914.

Obituary.

JOHN HARTLEY, F.R.C.S. ENG.,

HONORARY SURGEON TO THE DARLINGTON HOSPITAL.

The death of Mr. John Hartley, at his residence at Darlington on Oct. 3rd, will be deeply regretted by many old Middlesex men, by whom he was well known and much respected. He was the second son of the Rev. Charles Hartley, rector of Stocking Pelham, Herts, where he was born in 1857. He was educated at King's College, London, and at the Middlesex Hospital, where, after qualifying, he held the appointments of house surgeon, house physician, and resident obstetrical assistant. He then joined his brother, the late Mr. Charles Hartley, in practice at Dunmow, Essex.

Being keen on hospital work he returned to London and became clinical assistant at the Royal Westminster Ophthalmic Hospital. From there he was appointed senior demonstrator of anatomy at the Middlesex Hospital, which post he held for five years. On his resignation the staff and pupils made him a handsome presentation. During the time he was demonstrator of anatomy he was beloved by the students, and those who took an interest in their work found him a willing and accomplished helper in the pursuit of knowledge. He took his Fellowship in 1892, and four years later bought the practice of Dr. E. W. Forster in Darlington. About two years after he was appointed one of the honorary surgeons to the Darlington Hospital, which post he held till his death. For many years he spent about two hours each morning at the hospital, going carefully and skilfully into the details of every patient's illness. He always welcomed the help of his colleagues, and was ever ready to help them with advice or assistance in operations, and his opinion was much valued by a large circle of practitioners both in the town and surrounding district. The last years of his life were very busy in consultation and in surgical work. His geniality, straightforwardness, and generosity endeared him to a large circle, and his funeral was attended by a very large gathering of mourners. He leaves a widow but no family.

JAMES GREGORY MUMFORD, A.B., M.D. HARV.,

PHYSICIAN-IN-CHIEF, CLIFTON SPRING SANATORIUM AND HOSPITAL, NEW YORK.

Dr. James Gregory Mumford, who died on Oct. 18th at Clifton Springs, New York, where he was physician-in-chief to the sanatorium and hospital, was known in this country mainly through his writings, many of which have been reviewed in our columns. His "Narrative of Medicine in America" (1903) was a fascinating book, just and honest, and, as we stated in reviewing it,[1] a solid contribution towards the history of the profession in the New World. He also wrote the article on the history of surgery in Keen's "System of Surgery." Another pleasing little work was "A Doctor's Table Talk" (1912). His other works were surgical, and comprised an unconventional "Practice of Surgery" (1910), the "Surgical Aspects of Digestive Disorders" (1905), and "Surgical Memoirs and Other Essays" (1908).

Dr. Mumford was born at Rochester, New York, on Dec. 2nd, 1863. He graduated as A.B. at Harvard in 1885 and M.D. in 1890. After holding surgical appointments at the Carney Hospital, Boston, he became out-patient surgeon, and subsequently visiting surgeon, to the Massachusetts General Hospital, and assistant and subsequently instructor in surgery at Harvard Medical School. In 1912 he was appointed physician-in-chief to the Clifton Spring Sanatorium and Hospital.

THE NATIONAL COUNCIL FOR COMBATING VENEREAL DISEASES.

THE inaugural meeting of the National Council for Combating Venereal Diseases was held at the house of the Royal Society of Medicine on Wednesday afternoon last, when Sir THOMAS BARLOW presided, and explained in a brief address the aims and objects of the movement. The movement had its origin, he said, in a request from Major Leonard Darwin, the President of the Eugenics Education Society, to Sir Rickman Godlee, as President of the Royal College of Surgeons of England, and himself, as President of the Royal College of Physicians of London, to support a movement for national education on the subject of venereal diseases. Sir Henry Morris, President of the Royal Society of Medicine, having promised the coöperation of that body, a strong committee was formed to report on the incidence and prevalence of these diseases, on the provision existing for their treatment, and on the amount of instruction usually offered to the medical profession on the matter. The committee, whose work has been submitted to the Royal Commission on Venereal Diseases, went further and examined the need for popular information. They found the prevalence great, the provision for treatment, especially in London, poor, and the instruction given inadequate. It was to remedy these matters that the National Council would primarily work. But the breaking out of war offered them a special field in the aggregation of large bodies of young men in camps, with all the dangers implied to both sexes in the altered relations of the civil population. Sir Thomas Barlow was glad to announce that such work as the National Council proposed to do was heartily welcomed by Lord Kitchener, who it is known has already approved of a scheme for educating the army on such matters by qualified lecturers. The National Council will also supply a panel of such teachers and lecturers, carefully selected, and to be used in assistance of the work now going on. He closed with a few words of thanks for the coöperation which the movement was receiving from

[1] THE LANCET, Jan. 30th, 1904, p. 307.

women. He proposed the following list of resolutions:—

That it is desirable that a National Council for Combating Venereal Diseases be formed with the following aims and objects:—

1. To provide accurate and enlightened information as to the prevalence of these diseases, and as to the necessity for early treatment.

2. To promote the provision of greater facilities for their treatment.

3. To increase the opportunities of medical students and practitioners for the study of these diseases.

4. To encourage and assist the dissemination of a sound knowledge of the physiological laws of life in order to raise the standard both of health and conduct.

5. To coöperate with existing associations, to seek their approval and support, and to give advice when desired.

6. To arrange, in connexion with such organisations, for courses of lectures, and to supervise the preparation of suitable literature.

7. To promote such legislative, social, and administrative reforms as are relevant to the foregoing aims and objects.

Lord KINNAIRD, President of the Young Men's Christian Association, spoke in support of the objects of the meeting, which he said had long been before the minds of many of those interested in rescue work, but they had spoken hitherto to an uninterested public.

Sir FRANCIS CHAMPNEYS, in seconding the resolutions, said that the former attitude of recklessness towards the evils of venereal diseases had disappeared; people no longer thought that the evils must go on because they had existed for so long, nor that the sufferers were rightly punished for their sins. The fact that early syphilis was susceptible of cure had counted in the altered view, while he considered that this time of war was well fitted for the inauguration of the National Council.

Colonel H. EVERITT, representing the White Cross League, having briefly addressed the meeting on the work of his association, the seven resolutions were adopted unanimously.

Major LEONARD DARWIN then proposed that the following be the constitution of the council:—

1. The National Council for Combating Venereal Diseases shall consist of a council, an advisory board, and an executive committee.

2. The council shall consist of those persons whose names are set forth in the schedule attached, and of such other persons as may from time to time be invited to join either as individuals or as representatives of the principal societies and institutions engaged in social and educational work.

3. The council is formed for the promotion of the above-mentioned aims and objects. It shall meet at least once a year, shall receive reports from the advisory board and the executive committee, and shall determine all questions of policy and administration. Fourteen days' notice shall be given by a member of any resolution he intends to move at a meeting.

4. The advisory board shall consist of not more than ten persons to be selected by the council at its annual meeting. The advisory board shall have power to add to its number, provided that the total number of the board does not exceed 18.

5. The advisory board shall advise the council with regard to the policy to be pursued. No decision on any matter concerning questions of policy shall be taken by the council unless the advisory board shall have had an opportunity of expressing an opinion thereon.

6. The executive committee shall consist of three members of the advisory board, selected by that body and of not more than nine other persons selected by the National Council at its annual meeting.

7. The executive committee shall carry out the policy determined by the National Council, shall report to the National Council, and shall consult the advisory board on questions of policy. It shall call a meeting of the National Council at least once a year, and also at any time when so requested by the advisory board. It shall call meetings at other times for special purposes on the request of 20 members. It shall send to the advisory board, ten days before any meeting of the National Council, copies of any documents intended to be submitted to the council for consideration. It shall appoint committees, who may be given power to add to their numbers. It shall frame rules of procedure for the meetings of the National Council and of its committees.

8. The executive committee shall, as far as possible, promote the formation of local committees in important centres of population, and render them all assistance in its power.

Major Darwin explained the simplicity of the proposed constitution as being deliberate, so that the Council could either stop when its work was taken up by some other body, or develop into any greater form that might be necessary.

Dr. CHARLES J. MACALISTER seconded the motion and spoke, in reply to direct invitation, of the work that had already been done in Liverpool, on the initiative of the Liverpool Medical Institution and with the coöperation of an enlightened Lord Mayor and Lady Mayoress. At Liverpool lectures are delivered, he said, by selected men to male audiences and selected women to female audiences, and though on account of the war the lectures to males had now ceased, the audience being dispersed through the country, those to females went on.

Cardinal BOURNE, Archbishop of Westminster, spoke eloquently as to the value of the work which the National Council proposed to undertake, and Dr. INGE, the Dean of St. Paul's, poured scorn on the doctrine, which he termed blasphemous, that venereal diseases should be regarded as a divine punishment for sin.

The constitution of the Council having been adopted, Mr. CHARTERS SYMONDS proposed a long list of persons well known in medical, philanthropic, scientific, and educational circles who should form the first Council. He explained that it was intended that the Council should have the power to invite other persons to join their body either as individuals or as the nominees or representatives of societies and institutions engaged in medical, social, and educational work.

The motion was seconded by Mrs. CREIGHTON and duly carried.

Sir RICKMAN GODLEE proposed that owing to the present state of affairs due to the war the advisory board be not at present constituted, but a provisional executive committee be formed to carry on the work of the Council, with power to add to their number. It was further proposed that the Provisional Executive Committee of the National Council should be constituted as follows:—Sir Clifford Allbutt, Sir Thomas Barlow, Sir Francis Champneys, Sir Watson Cheyne, Mr. W. A. Coote, Major Leonard Darwin, Colonel T. W. Gibbard, Sir Rickman Godlee, Mrs. James Gow, the Right Hon. Lord George Hamilton, Lady Laura Ridding, the Lord Bishop of Southwark, Mr. Charters Symonds, Dr. Frederick Taylor, Mrs. Torrey, Dr. Helen Wilson; and that the honorary secretaries of the National Council should be Dr. Douglas White and Mrs. Gotto.

This motion was adopted, after which Sir MALCOLM MORRIS spoke briefly as to the value set upon the work which the National Council proposed to do by the Royal Commission on Venereal Diseases. He said that the work of that Commission had necessarily been arrested by the war, but he thought that he might mention that an interim

report would be forthcoming which would be useful in the present juncture.

The proceedings closed with a few words of thanks from Sir THOMAS BARLOW to many busy persons, some from distant provincial centres, who had attended a large and representative meeting.

THE WAR.

THE CASUALTY LIST.

THE following casualties among officers in the Royal Army Medical Corps serving with the Expeditionary Force have been reported since our last issue:—

Killed: Captain Richard George Kinkead.

Wounded: Captain H. G. Gibson, Lieutenant G. R. Grant, Lieutenant C. W. B. Littlejohn, Lieutenant F. G. Thatcher, and Lieutenant T. A. O'Driscoll.

Missing: Captain A. M. Pollard.

Captain B. Johnson, previously reported missing, is now reported a prisoner of war. A letter has been received from Crefeld from Captain W. Egan, who was taken prisoner on August 28th. Captain A. D. Fraser, reported missing three weeks ago, should read Captain A. E. G. Fraser.

Lieutenant Douglas Wardleworth, R.A.M.C., has been accidentally drowned while on military duty at Havre.

Among the executive officers who lost their lives with the Royal Naval Division in the operations around Antwerp was Sub-Lieutenant Edwyn Manners Ridge, R.N.V.R., who was a Fellow of the Royal College of Surgeons of England and practised at Enfield.

HEALTH OF THE TROOPS IN THE FIELD.

As far as we are able to judge from the limited information to hand, the health of our troops in the field is satisfactory. This is very encouraging. The time of year is not favourable to epidemic disease. With the onset of colder weather and especially a prevalence of rain, life in the trenches will become very trying to all who are not constitutionally sound, and bowel complaints may be expected to prevail, dysentery, and diarrhœa due to chill. The Queen's opportune appeal to the women of the Empire for 300,000 body belts and 300,000 pairs of socks has met with a speedy and satisfactory response, and the distribution of these most opportune gifts should do much to ward off what has so often proved to be the scourge of armies. Dysentery and the liver affections that so often accompany it have always been a source of suffering and inefficiency to armies in the field. Insufficient and improper food, accompanied by chill, due to variations in temperature and insufficient clothing, are the usual predisposing causes, and may operate in cold and inclement weather as well as during excessive heat. From all we hear, the feeding of the troops has been excellent. The commissariat department has been well organised, and the supplies have been plentiful and of first-rate quality. The difficulties to contend with are enormous over such an extensive field of operations. On the other hand, the allied troops are not fighting in a hostile country, and have therefore the advantage of an abundant and regular supply of all necessary articles of food. No doubt, also, warm clothing has been, or is being, issued. In the Crimean war, when our troops were fighting alongside the French, as they are to-day, there was a marked difference in the health of the two armies during the first winter. This was due, in the opinion of all competent judges, to the much better condition of the French than of our own troops in regard to field equipment and supplies. They had shelter tents, overcoats, and excellent provision of bread and food articles generally. Our soldiers, on the other hand, were exposed to cold and wet without adequate protection, the regulation clothing was most unsuitable, and the feeding bad, consisting almost exclusively for a considerable time of salt meat and biscuit, without vegetables. Subsequently the manifest deficiencies were rectified, and the British troops during the second winter were much healthier than the French force. At the present time our supply department seems to have been extraordinarily well managed in regard to all essentials. There is, however, plenty of room for the aid that may be given by private benevolence. The belts and socks that have been promised will be most valuable, and we hope are already on the way to the field of action. Allusion was made in these columns recently[1] to the danger of importation of infectious disease in army clothing made by out-workers. A tailoress making army greatcoats was at work in a house where scarlet fever had broken out. Such a risk of introducing infection should be rendered impossible. Tetanus still appears in many cases of wounds, probably due to contact with specifically contaminated earth. It is difficult to see how this can be avoided under the conditions that prevail. The use of the specific serum, in addition to the ordinary antiseptic measures, may be expected to control this danger. Our troops, from all we can gather, are admirably fed and clothed, and their spirit, as we know, is magnificent. What is needed now is to preserve their health and sustain their spirit. We feel sure that no effort will be wanting on the part of the nation to secure this end. We are told that the Germans have pianos in their trenches and that they sing a great deal. Our troops may not have the instrumental accompaniment, but are probably quite as well able to sing as those on the other side. Meantime let there be more and more belts and socks got ready in good time to replace those that become unserviceable.

INDIAN SOLDIERS' FUND.

As we have already recorded, a very strong representative committee, under the chairmanship of Sir John Hewett, G.C.S.I., C.I.E., has been appointed to administer the results of the appeal for the Indian Soldiers' Fund—a fund to supplement the provision for ambulances, base hospitals, and the necessaries of war for the Indian Force of some 40,000 or 50,000 men despatched in such dramatic circumstances to fight in France with the Allied troops. The Order of St. John of Jerusalem, whose influence and work in India is described this week elsewhere by one of our correspondents, has provided a hospital, and the Indian Fund also desires to supplement the clothing and comforts already provided for the Indian troops by the Government with articles which it does not fall within the responsibility of the Government to offer, and to repair the almost inconceivable wastage of war. The Indian Fund was started by grants from the Order of St. John of Jerusalem (£10,000) and the Viceroy's Imperial War Fund (£6666), and soon reached a

[1] THE LANCET, Oct. 24th, p. 1003.

total of £55,000. It now stands at over £80,000 we are told, but a far larger sum can be spent with advantage. Donations of money may be sent to the honorary secretaries of the Indian Soldiers' Fund at 1, Carlton House-terrace, S.W.—Mr. P. D. Agnew and Mr. E. H. Blakesley. Clothes or comforts may be sent direct to the Warehouse Subcommittee at 29, Somerset-street, London, W. A list of 12 subordinate committees to the General Committee of the Indian Soldiers' Fund was rapidly formed, and Sir Havelock Charles and Sir Trevredyn Wynne went to France to be in a position to reply to any questions dealing with voluntary aid in hospitals and ambulance work of all kinds, with special reference to the work of the Indian Soldiers' Fund. They have reported that the wounded are receiving every possible care and attention in France, and that there is a large field for voluntary aid in ambulance work to supplement regular ambulance work, and working under the directions of the regular Army Medical Service. With respect to such work as the Indian Soldiers' Fund was specially constituted to undertake, they reported, after an interview with Sir Savile Crossley, Commissioner with the Red Cross in Paris, that the Order of St. John of Jerusalem should not establish a separate organisation to work its own motor ambulances, particularly as the French authorities would not readily understand the installation of another ambulance association. They discussed the delivery of clothing and comforts to the Indian troops at the front with the Adjutant-General and Quartermaster-General at headquarters in the field, with the Generals commanding the lines of communication and the Indian Expeditionary Forces, and with Sir Savile Crossley, and they arrived at a method in which it would be possible to deliver stores to the Indian troops at the front. Their net conclusion is that the Indian Soldiers' Fund must establish a base depôt in France at a seaport, and if necessary sub-depôts between the port and the front; that stores from these depôts must be delivered to the different Indian regiments by a motor lorry service and worked by the Indian Soldiers' Fund. The scheme, after official sanction, will entail the provision of six motor lorries and two motor cycles, three passenger motor-cars, and an officer with two assistants. Mr. Elles has volunteered to take charge, and Mr. Fenton, who is the son of Mr. Du Cros's agent in Paris, will act as one of the assistants. The further staff required to work the lorries and cars will be enlisted, and a suitable house must be rented in Boulogne for a base depôt, when the stores already in hand can be sent there. The stores will then be run to the rear of the Indian contingent, the motor cyclists acting as commercial travellers to let regiments know where the supply lorries are and to ascertain what is wanted, as well as to regulate other stores being sent. Sir Alfred Gaselee has expressed his willingness to proceed to France to make the necessary arrangements, which should ensure the disappearance of all preliminary difficulties.

Against Loss of Men by Sinking of Ships.

The most serious risk before our fighting ships in this war is destruction by submarine mines or by torpedoes. Under these circumstances many men are struggling in the water, and the more wisely preparations are made for these emergencies the more lives will be saved. It will be well, then, that we reproduce from THE LANCET of Oct. 7th, 1911, the measures the Japanese found most helpful in these difficult situations, as reported in the fourth volume of the official Japanese history of the war with Russia in 1904–05, and translated by Staff-Surgeon Chemin, of th French Navy, for the *Archives de Médecine et Pharmacie Navales* for September, 1911. Rule 1 is that the men should not on any account remove their clothing, even heavy clothing, before jumping overboard; the air entangled in it is only gradually displaced by water, and meanwhile it buoys the man up a little and goes on acting as a non-conductor of heat, and so for a time lessens chill and minimises shock. We know of an officer who was thrown overboard from a torpedo-boat in the Mediterranean in great-coat and sea-boots. When in the water he managed to get off one sea-boot, but finding himself pretty comfortable, he did not let it go or attempt to remove the other, and was very shortly picked up with his clothing intact. So clothing, however heavy, does not sink a man for a time. The chief danger from clothing comes later, when in now thoroughly soaked clothing the wearer is being rescued. He is by this time exhausted and cannot do much, or perhaps anything, to help himself and as he is being lifted out of the water into the boat he gets rapidly heavier and heavier, and this increased weight may overpower the too light grip of him taken by his rescuers, who had not expected this so rapid increase of weight. A man in the water should not try to swim except for some definite purpose, but be content to float and be satisfied if he can just keep his mouth above water, and he will be greatly assisted by the air-collars so thoughtfully provided by the Admiralty. The best life buoy, short of a cork jacket, is a lashed-up hammock; it does not turn over and over like a cask, and there is always the lashing to hang on to; and a hammock has been known to keep a man afloat for 24 hours. A man, especially if exhausted, should never let go of his hammock, however near the boat is, until his rescuers have a good hold of him. Many a man is lost through neglect of this little precaution. The boats rescuing men should be as low-sided as possible. It is a great trouble to get men into launches with high sides, and took a long time. The quicker each man can be picked up the more men obviously will be saved. When a man has been rescued get his wet clothes off, wrap him in dry blankets (have some in the boats), give him a hot drink (not an alcoholic drink), and lay him down in a warm part of the ship (flats or ammunition passage), and then will have been done for him the best thing possible. These instructions may be summed up thus:—"Don't take your clothes off; don't try to swim; don't let go of your hammock."

Enteric Fever in War.

Sir William Osler will open a discussion at the next meeting of the Society of Tropical Medicine and Hygiene on Friday, Nov. 20th, at 8.30 P.M., at 11, Chandos-street, Cavendish-square, on "Enteric in War with Means for its Prevention." In view of the exceptional interest of this subject it has been decided to invite members of the medical profession who are not Fellows of the Society to attend as visitors, and especially any who may have had recent experience of the inoculation of the troops. Any who will send their names to the secretaries of the society, 11, Chandos-street, Cavendish-square, W., will be furnished on request with a précis of Sir William Osler's paper introducing the subject.

THE QUESTION OF EXPLOSIVE BULLETS.

The photographs and radiograph which we reproduce below were brought to us by a Belgian doctor as a clear and irrefutable proof that the injured soldier was struck by an explosive bullet. It is common knowledge that the vast majority of wounds which earlier in the war were attributed to explosive bullets on account of the enormous destruction of tissue are capable of more decent explanation. The point was well summed up last week by one of our correspondents in describing the wounds which he had been treating in a hospital at Chambéry, where all the appearances that might be attributed to explosive bullets were obtained both from shrapnel and from modern conical high-speed bullets which have either twisted on their axis of direction towards the end of their course or which have undergone *ricochet*. But that some revolver ammunition of an explosive type has been employed seems probable. Our correspondent considered that a study of the photographs would convince the most sceptical that in this case an explosive bullet had been employed.

FIG. 1. FIG. 2. FIG. 3.

Palmar view.
o, Orifice of entry of bullet.

Dorsal view.
Showing great destruction.

Radiogram. A, Metal clasp (*agrafe*) above wound of entry. B, Big fragment of bullet, smaller fragment being scattered.

CONSULTANTS TO THE ROYAL NAVY.

The following names of temporary consultant physicians and surgeons appear in the current issue of the Navy List:—Sir W. Watson Cheyne, Mr. G. R. Turner, Mr. Arthur Edmunds, and Mr. C. H. M. Hughes (Naval Hospital, Chatham); Mr. G. Lenthal Cheatle, Dr. H. D. Rolleston, and Mr. C. W. Morris (Naval Hospital, Haslar); Mr. Raymond Johnson (Naval Hospital, Plymouth); Sir Alfred Fripp and Dr. D. A. Shields (H.M. Hospital Ship *Sheelah*); and Sir William Macewen.

SURGEONS IN THE "GOOD HOPE" AND "MONMOUTH."

In the naval action off the coast of Chile it is feared that both H.M.S. *Good Hope* (Admiral Cradock's flagship) and H.M.S. *Monmouth* have been lost with their brave crews. According to the Navy List for November the surgeons serving on board these two cruisers were as follows:—*Good Hope*, Fleet-Surgeon James J. Walsh, Surgeon Francis C. Searle, and Surgeon (Reserve) Fernand L. T. M. de Verteuil. *Monmouth*, Staff-Surgeon Henry Woods and Surgeon Albert J. Tonkinson. We earnestly hope that later messages may bring news of survivors.

THE WRECK OF THE "ROHILLA."

The hospital ship *Rohilla*, which, as reported last week, was wrecked off the Yorkshire coast on Oct. 30th, carried the following medical men on board, all of whom, we are glad to state, have been saved, although the ship is a total wreck: Fleet-Surgeon Ernest C. Lomas; Surgeon S. L. McBean; Temporary Surgeon T. H. Cresswell; Surgeons R.N.V.R., T. C. Litler Jones, H. Leith Murray, A. E. W. Hird, and L. S. Ashcroft. Mr. F. W. Paul, who was on board as civilian dental surgeon, was also saved, as were the four nursing sisters.

OUR BELGIAN REFUGEE COLLEAGUES.

Belgian medical men now residing in London, at a general assembly of their number held last week, passed a resolution, which we reproduce below, showing their real recognition of anything which their English colleagues may have been able to do for them in their sad position. The resolution runs as follows:—

Aux Autorités Médicales Anglaises.

Les médecins Belges résidants à Londres, réunis en assemblée générale le 2 Novembre, 1914, ont l'honneur de présenter aux hautes autorités médicales Anglaises les sentiments de leur plus vive gratitude pour l'insigne honneur dont

ils viennent d'être l'objet de la part de leurs confrères de la Grande-Bretagne. Ils n'oublieront pas que dans ces moments de détresse et de deuil pour la pauvre Belgique si éprouvée, la noble Angleterre est venue au secours de leurs compatriotes dans un élan de générosité admirable dont ils lui sont profondément reconnaissants. Ils peuvent affirmer que de leur coté ils n'useront qu'avec la plus extrême délicatesse de la grande faveur qui leur a été accordée et prient leur chers confrères de vouloir bien agréer l'expression de leurs sentiments de gratitude et de chaleureuse confraternité.

The resolution is signed in behalf of the Belgian refugee doctors by Dr. Clément Philippe.

BELGIAN MEDICAL MEN AND PHARMACISTS.

The committee appointed to consider the position of Belgian doctors and pharmacists in Belgium has proceeded to work strenuously. All communications should be addressed to Dr. Sprigge, 423, Strand, London, W.C.

OBITUARY OF THE WAR.

RICHARD GEORGE KINKEAD, M.B. R.U.I.,
CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain R. G. Kinkead, who was killed in action on Oct. 31st, was the only surviving son of Dr. R. J. Kinkead, professor of midwifery in University College, Galway. He received his school education in the Grammar School, Galway, and Portora Royal School, Enniskillen. He entered Queen's College, Galway, and received his professional education there and at the Richmond Hospital, Dublin. He received the medical degrees of the Royal University in 1908. After a year as assistant house surgeon in the Coventry and Warwickshire Hospital he obtained a commission in the Royal Army Medical Corps. When the war broke out he was stationed in South Africa. He was called to Europe for service, and left England for the front on Oct. 6th. He was attached to a Hussar regiment. In his last letter home, written five days before his death, he wrote with enthusiasm of the magnificent spirit of both officers and men. Kinkead was a most promising officer. With his father, one of the most respected men in the Irish profession, there is universal sympathy.

SYDNEY NELSON CROWTHER, M.R.C.S. ENG., L.R.C.P. LOND.

Mr. Sydney Nelson Crowther, senior assistant medical officer at the Surrey County Asylum, Netherne, Merstham, was killed in action whilst on service with the British Expeditionary Force as a motor-cycle despatch rider. He was the fourth son of the late Alfred Hallworth Crowther, a solicitor, and was born at Keston, Kent, in 1874. He was educated at Warwick School and at Westminster Hospital, where he acted as house physician and house surgeon. He went out to South Africa as a dresser in the Imperial British Yeomanry Field Hospital, receiving a medal with four clasps. He qualified at the English Conjoint Board in 1903. In 1906 he was appointed assistant medical officer at Brookwood, and in 1909 was appointed senior assistant medical officer at Netherne on the opening of that asylum. He was a man of exceptional capabilities, who will be much missed in the county of Surrey, especially as he had just been appointed to succeed Dr. F. C. Gayton, who was retiring from the post of superintendent. In addition to his medical capacities he was an ardent sportsman, having played at football for his county and the United Hospitals and the British Rugby team that toured round the world; he was also a good cricketer and golfer. On the outbreak of the present war he at once joined the Royal Engineers as a motor-cycle despatch rider, and was given the rank of corporal. He sailed for the front on Sept. 12th, and was killed in action on Oct. 18th. His death has cast a gloom over both Surrey asylums, where his kindly nature, generosity, and sportsmanlike qualities made him a general favourite.

CECIL TAYLOUR CONYNGHAM, M.B. DUB.,
CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain C. T. Conyngham, who has been killed in action in East Africa, was the son of Mr. Henry Conyngham, a member of the well-known firm of chemists, Messrs. Hayes, Conyngham, and Co., of Dublin. He was educated at St. Andrew's College, Dublin, and Trinity College, Dublin. While in college he was a good all-round athlete. He was a successful sprinter; he swam for the college team; and he played in a team which won the Leicester Cup for the Wanderers' Football Club in 1906. He received his degrees in medicine and surgery in 1906, and soon obtained a commission in the Royal Army Medical Corps. When war broke out he was stationed in India, and he only left Bombay for East Africa on Oct. 16th.

THE BRITISH RED CROSS SOCIETY.—The summary of the work for the week ending Nov. 10th states that 359 hospitals have been accepted by the War Office, containing 11,730 beds, including 1495 beds accepted during the past week, and distributed among the army commands as follows: London 745, Southern 3487, Aldershot 633, Eastern 3437, Northern 1803, Western 1436, and Irish 189. A number of Red Cross Voluntary Aid Detachments are being utilised in connexion with these hospitals.

At the Netley Red Cross Hospital nine huts are occupied by sick and wounded, which includes 60 Indians. The pack store, steward's store, and dispensary are almost complete, thereby releasing the huts which have been used for these purposes. 300 beds are expected to be ready by the end of the week. Medical officers and nurses are going to their regular quarters, thus giving more huts for patients. The night orderlies' dormitory, bath-rooms, and extra stores have been completed and occupied. The large dining hall for patients will be finished in ten days. The patients in the hospital express themselves as comfortable and well satisfied. Sir Frederick Treves and Sir Benjamin Franklin visited and inspected the hospital. Two members of the Indian council have also inspected the Indian ward. For ambulance purposes 84 cars have been despatched to the front; four of these are in temporary use at Southampton and another at Oxford.

The following personnel has been despatched on the dates and to the places enumerated:—Boulogne, Nov. 4th, 1 surgeon. Boulogne, Nov. 5th, 5 surgeons and 5 dressers. Paris, Nov. 6th, 1 splint-maker. Boulogne, Nov. 9th, 11 dressers. Sir Henry Norman's Hospital, Nov. 10th, 1 doctor. Nov. 9th, 20 nurses despatched to France for Lady Norman's Hospital; 26 nurses sent to home hospitals.

The following stores have been despatched during the last week: 1939 cases to France and 1231 to various parts of England to 102 hospitals in all. Demands from Boulogne and Calais increase, but requisitions from Rouen are not so great owing to the good reserve stock. Applications for stores are now of a very varied nature, including foods of all kinds and medical requisites of every sort, resulting in the purchase of a large percentage of the supplies, which permits of drawing to a very small extent on stock. The necessity of the public subscribing money in lieu of goods is accentuated by recent requisitions.

Sir Frederick Treves states that owing to the generosity of Mr. Fielden the society has been able to acquire for an almost nominal sum the well-known steam yacht *Paulina*. The ship is 380 tons, draws 11½ feet, and is capable of a speed of 11½ knots. She has an admirable crew of 19 men. She is at this moment undergoing the process of being fitted for a hospital ship, and when complete will have 21 beds for private soldiers and three separate cabins for officers. She will carry a doctor and two orderlies.

The running expenses of the yacht are estimated at between £300 and £400 per month. It is the pleasure of Her Majesty Queen Alexandra that the yacht should be named *Queen Alexandra*. The yacht has received the necessary Admiralty warrant as a hospital ship, and will be ready to commence her work in about three weeks' time. She is lying at present at Itchen, Southampton.

FRENCH RED CROSS SOCIETY: THE NEED FOR MOTOR AMBULANCES.—We have received a communication, signed by the Duke of Portland (honorary president), Sir Francis Bertie, M. Paul Cambon, Lord Charles Beresford (chairman), and other members of the British Ambulance Committee, appealing for motor-cars for the French Red Cross Society. The Queen, Queen Alexandra, and the Prince of Wales have sent messages of encouragement to the committee, while the French Government through the French Ambassador in London has expressed hearty approval of the scheme. Moreover, the French Red Cross Society states that in many directions the ambulance transport of the French army has almost broken down. Cars should be lent to the French Red Cross Society through the committee for a minimum period of three months. A minimum expenditure of £50 upon each car supplied is necessary to convert it into an ambulance and complete its outfit, and the cost of maintenance is estimated at about £10 a week, so that those who may have no cars of their own to lend are requested to send subscriptions towards the first sum of £50,000 with which the committee propose to begin to carry out their purpose. Those who are willing to lend cars should communicate with the joint honorary secretary, Mr. B. Pegman, Queen's Mansions, Westminster, S.W. According to the statement of the committee France has already used up nearly all the motor-cars available for ambulance work, and the wounded of our gallant ally are suffering terribly owing to the consequent delay in transport from the front to the nearest available hospital. Now that the English people have done what was urgently necessary in this matter for our own army the committee hopes that its appeal for motor-cars and for funds for their upkeep will meet with an instant and generous response.

THE INDIAN ST. JOHN AMBULANCE ASSOCIATION AND THE EUROPEAN WAR.—One of our Indian correspondents writes as follows:—The St. John Ambulance Association is the only Red Cross Society in India, and has taken up with the greatest promptitude its duties in the present European crisis. The society has during the past five years built up a position as a national institution in India, and has established in this brief period no less than 300 centres in every corner of the great Indian Empire. The value of this well-thought-out organisation became at once apparent on the outbreak of the present war. Forty-eight hours after the news reached India a circular letter was issued to all centres of the association pointing out that England was now at war and that there was evidence of intense enthusiasm on the part of the public and a great desire to help our troops in the field. One of the most important functions of a Red Cross or ambulance society is to direct such patriotic enthusiasm into correct channels, and the letter suggested that centres of the association should form ladies' committees with the following objects—viz. (1) to collect funds; (2) to collect gifts of articles likely to be of use to troops on service; and (3) to collect material for ambulance detachments, should such be organised.

This letter was promptly followed by a meeting at the headquarters of the Indian Government. Addresses were made by Surgeon-General W. Babtie, Director of Medical Services in India, and Surgeon-General Sir C. Pardey Lukis, Director-General of the Indian Medical Service, outlining a scheme for the collection of gifts likely to be of use to troops on service. This was followed by the publication of a list of articles compiled by Surgeon-General Babtie in conjunction with the chief lady superintendent of the Queen Alexandra's Nursing Service. In a letter distributing these lists it was pointed out that they were mainly meant to supplement articles already provided by Government, and not to supply deficiencies. It had been found in practice very convenient that in the time of war both nurses and medical officers should have extra articles of this kind which are absolutely at their disposal without having to account for them officially. The Indian Council forthwith organised a depôt at Bombay, where all goods were received, classified, suitably packed, and handed over to the military authorities for despatch to our troops on active service. The railway authorities carry these Red Cross gifts from every part of India free of all charges.

With reference to personal service the Indian Council has under formation in every station in India Voluntary Aid Detachments, consisting of persons holding its certificates. These detachments consist of (*a*) a commandant who is, if possible, a medical practitioner; (*b*) at least two men trained in first aid; and (*c*) seven women who must hold both the first aid and nursing certificates. This personnel is recognised, registered, and inspected by the military authorities, and the Director of Medical Services in India is prepared to employ them at railway rests, camps, &c. The ladies' committees of the St. John Ambulance Association in India are only concerned with the sick and wounded, as the provision of gifts and comforts for actual combatants, however laudable, is no concern of a Red Cross Society. The response to the appeal from all parts of India has been so remarkably prompt that Surgeon-General Babtie has decided to revise the list of articles sent and has framed a list of what are now called replacement units for ten beds. These units contain all articles which it is necessary to repeat or replace. In addition to the hospitals in the theatre of war there will be hospital ships plying regularly between Bombay and Europe as well as ambulance trains in India which will require comforts on a special scale. The association, moreover, will be required probably to provide comforts for rest camps and rest stations on the railways. In addition to the ordinary units the Indian branch of the association has designed what is called the Red Cross bag, containing comforts for *invalided* British and Indian soldiers when they leave hospital. It will be gathered from the foregoing that the Red Cross services in India will not end till the war does. The association's system of providing gifts and comforts for the troops, British and Indian, has received the approval of both the Viceroy and the Commander-in-Chief, and it has also been asked to assist the military authorities in obtaining recruits for the Army Bearer Corps during the war, and has been very successful in this direction. Indeed, the services of the St. John Ambulance Association have become so valuable to the Government of India and military authorities that Major R. J. Blackham, honorary general secretary of the association, for some six years has been placed on special duty by the Commander-in-Chief to direct and control all Red Cross work in India. This is probably the highest recognition any similar society has attained.

RED CROSS ACTIVITY IN DUBLIN.—Our Dublin correspondent writes:—For some weeks past there has been in existence a County Dublin branch of the British Red Cross Society which has been working in conjunction with the St. John Ambulance Association. At a public meeting held last Monday in the theatre of the Royal Dublin Society, the Lord Mayor presiding, it was decided to form a branch for the city of Dublin. Her Excellency the Countess of Aberdeen was elected president, and various officers and committees were appointed. Collections in aid of the funds of both county and city branches are to be made in the streets of Dublin on Nov. 14th. Lady Aberdeen has sketched a new scheme of activity for Red Cross workers in Dublin. She suggests the establishment of a hospital which might be furnished by those interested in Red Cross work, and which would give an opportunity of extending the training of women holding first-aid and nursing certificates. In the daily papers of Nov. 10th Sir Thomas Myles makes a somewhat similar proposal. He draws attention to the fact that the recent arrivals of wounded soldiers from France have taxed the Dublin general hospitals to their full capacity, unless serious inroads are to be made on the accommodation normally required for the civil population. He suggests the immediate erection of a wooden or iron temporary hospital in the Phœnix Park, capable of holding 1000 beds. It should be divided into blocks with not more than 200 beds in each. There are many Dublin surgeons who would willingly undertake the surgical work gratuitously, if the Government employed a reasonable number of young men as house surgeons. The control of the nursing should be in the

hands of trained nurses, and under them the general nursing could be undertaken by the women who for some months past have been undergoing voluntary training in hospitals to prepare them for emergency work.—The *Oxfordshire* hospital ship arrived in Dublin last week with some 700 wounded officers and men, most of whom were accommodated in the hospitals of Dublin, military and general. The cases are, speaking generally, more serious than those received earlier. The great majority of the patients are suffering from septic wounds, more or less serious, but comparatively few show any signs of general sepsis. The infection generally appears to be of staphylococcus aureus, though a certain number of wounds have bacillus pyocyaneus present.

WOUNDED SOLDIERS AT BELFAST.—The first party of wounded soldiers allocated to Belfast arrived on the evening of Nov. 5th. The Bibby liner *Oxfordshire* brought 700 British wounded from Boulogne to Dublin on the morning of Nov. 5th, and about 150 of these were sent northward by means of the new finely-equipped ambulance train, which was specially built—since the war began—by the Great Northern Railway Company of Ireland. About 20 of the less serious cases were taken *viâ* Portadown to Omagh; the remainder came on to Belfast, where 65 of them found accommodation in the Royal Victoria Hospital; 20 were taken to the military hospital at Victoria Barracks; while the balance were sent by motor car to Downpatrick. The most ample preparations were made at the Great Northern terminus, Belfast, for the reception and transference of the patients to the hospital. A large number of private motor cars were placed at the service of the Royal Army Medical Corps, in addition to motor ambulances of the corporation, the Red Cross Society, and the Ulster Volunteer Force, and the patients were rapidly and easily removed to the hospitals. A number of ladies provided hot soup and cigarettes, &c., for the wounded while at the Belfast station, which were greatly enjoyed. The majority of the soldiers wounded got their injuries recently in the Ypres district. At the Royal Victoria Hospital the men say their injuries were, as a rule, caused by shrapnel or rifle bullets. They speak highly of the artillery of the Germans, but think little of the enemy as a fighting individual. One man has lost an eye, another has a serious injury to the hip-joint, another has a bad smash of one shoulder-joint, another has been shot through the cheek, others in the knee, foot, and arm. All are cheerful, most modest in their description of their experiences, and very grateful for any attention. Numerous X ray photographs indicate the lesions and the presence of the shrapnel.

MEDICO-MILITARY NOTES FROM AMERICA.—In the October issue of the *Military Surgeon*, published in Chicago, Captain W. H. Crum, Medical Corps, U.S. Army, discusses the physique of the Medical Corps orderly, the stretcher bearer, or as he, following continental practice, names him, "the sanitary soldier." The physical toil of carrying men off the field on stretchers is very exacting. Captain Crum points out that the bigger and stronger the stretcher bearers the more quickly will the work be done. He set two squads each to carry a man of 11½ st. on a stretcher twice round a half-mile racecourse. One squad averaged 5 ft. 10½ in. and 13½ st.; the other pair 5 ft. 7½ in. and 10 st. 5 lb. The shorter pair did the first circle in 12½, the second in 14⅔ minutes and changed ends nine times; the bigger men did the first circle in 9, the second in 12 minutes and exchanged places five times. The big men did a quarter more work in the same time. Therefore Captain Crum desires to see big, powerful men enlisted in the sanitary corps, men, he says, "as good as those of the Mountain Artillery," evidently a corps d'élite in the United States. Still, that army which has in the firing line all its most powerful soldiers will probably secure that its enemy has the most wounded, and that its own less powerful orderlies have less call made upon their services. Major A. E. Truby, Medical Corps, U.S. Army, tells how to provide hot water easily and in plenty in camp. Alongside the destructor, whose fire is always alight, there is a water barrel, from the bottom whereof a three-quarter inch pipe leads to the destructor, takes a complete turn round within the fire, and leads back to the barrel some 8 inches above the bottom. This is an adaptation of the ordinary method of household hot water heating used in Canada and the United States. The description is clear and well illustrated, the apparatus, given the barrel and the destructor, quite easy to instal. Lieutenant DeLanney, describing the giving of ipecacuanha for dysentery, first secures his patients against the distressing nausea by putting 15 grains of the powder into gelatine capsules which he has soaked for some hours in 20 per cent. formaldehyde solution and has afterwards dried. Major Reno, who devotes much attention to the improvement of the military efficiency of the Medical Corps, recommends a sort of metal thimble to fit over the head of tent pegs to prevent their splitting when being driven. It could not be but very useful if always at hand. The Schäfer method of artificial respiration[1] has been officially adopted in the United States Army. There is translated the discussion of agglutination phenomena in 144 cases of paratyphoid B infection in Japanese sailors and soldiers already immunised, all of them, against typhoid fever. In most cases the paratyphoid B agglutination was in a weaker dilution than the Widal. Sometimes, however, they occurred only in similar dilutions, and at times this position was reversed. Numerous abstracts of papers are presented from all the medical military journals of the world. On the whole, they suggest that the work of the medical officer at the front is chiefly sanitary and preventive, and that anything beyond first aid to the wounded must be done by surgeons on the line of communications, and that, if possible, serious operations should be undertaken only in the base hospitals.

WOUNDED SOLDIERS IN SCOTTISH HOSPITALS.—Another hospital train arrived in Edinburgh on Nov. 5th. The men were sent to the different hospitals—Craigleith, the Royal Infirmary, and Dalmeny. The men had come straight from the firing line, and among those who were sent to Dalmeny were two of the London Scottish who had been in the first great charge made by Territorials. From the nature of the wounds, as these are compared with those of the first contingent, the close and bloody nature of the recent struggles at the front may be realised. Among the first contingent practically all the wounds had been caused by shrapnel. So far as the contingent which arrived on the 5th were concerned, shrapnel wounds were few, and there is eloquent testimony to recent infantry struggles in the fact that practically 90 per cent. of the wounds are due to rifle bullets.

MANCHESTER IN WAR TIME.—Our own correspondent writes as follows concerning university and medical matters: "Naturally, the outbreak of war has had an effect on the attendance at the University. On the whole there is a diminution of about 25 per cent. so far as entries are concerned. As to the medical school itself, the following is approximately correct. As compared with the corresponding period last year there are between 60 and 70 fewer students on the register of the medical school. The number of new entries in medicine for the degree and other qualifications shows an increase over last year's figures. There is a diminished entry for dental qualifications, as well as for the diploma of Public Health and that of Veterinary State Medicine. The University has offered hospitality to two medical students from the University of Ghent. These students are pursuing their studies in the medical school. The professorial staff is doing its best to arrange for the reception of professors and their relatives who have been obliged to leave Belgian universities. It is stated that Professor Boycott will in due time proceed to take up an appointment in London, so that by and by there will again be a change in the pathological department of the University. Over 4000 wounded—English, Belgian, and a few German soldiers—have been received at the Manchester or Western Base Hospital. Over 1100 have been dealt with in the Manchester, Salford, and adjoining hospitals; some have been sent to hospitals in neighbouring towns. The Lancashire towns—in spite of great depression in the cotton trade—are making and have made strenuous endeavours to accommodate both the wounded and the numerous Belgian refugees who have reached Manchester. On Nov. 10th there was a public funeral of seven brave Belgians who had died in the local hospitals as the results of injuries received in the battles in Flanders."

[1] THE LANCET, March 27th, 1909, p. 895.

PROHIBITED EXPORTS.—In a Prohibition Order issued as a supplement to the *London Gazette* of Tuesday, Nov. 10th, there is included, besides military articles and the raw materials out of which explosives can be made, a long list of drugs. Notable amongst those which are forbidden to be exported to all destinations are acetanilide, acetylsalicylic acid, aconite, antipyrin, antimony, chloral, carbolic acid, collodion, veronal, formic aldehyde, hydrobromic acid, emetine hydrochloride, ergot, opium, phenacetin, potash salts, sulphonal, and tartaric acid. Chloroform and ether are not included, but methyl alcohol and spirits are. Amongst the drugs forbidden to be exported to all foreign ports except those of France, Russia, Belgium, Spain, and Portugal are bismuth salts, camphor, castor oil, iodine, mercury salts, picric acid, sulphur, and sulphuric acid. The Prohibition Order applying to all destinations abroad other than His Majesty's dominions includes certain provisions and victuals—e.g., living animals (for food purposes), barley, oats, butter, cheese, eggs, margarine, wheat and wheat flour, and woollen goods and clothing. Sugar is prohibited to all destinations other than the Channel Islands, Malta, Gibraltar, the Falkland Islands, St. Helena, the East Africa Protectorate, and the British West African Colonies and Protectorates.

FIRE PRECAUTIONS IN EMERGENCY HOSPITALS AND REFUGEE HOSTELS.—A free public issue is now being made by the British Fire Prevention Committee of the necessary "fire warnings" for emergency hospitals, convalescent homes, and refugee hostels. These "warnings" take the form of a small red poster measuring 8 in. by 20 in., embodying useful reminders and hints as to matches, smoking, illuminants, open fires, stoves, and the use of spirit, celluloid, and similar dangerous substances. Copies are supplied upon written application to the Registrar of the Committee, 8, Waterloo-place, Pall Mall, S.W., stating the number of beds or number of refugees which the applicant has to deal with. Summarised translations in the Flemish and French languages on posters of a somewhat smaller size will also be provided on request by the British Fire Prevention Committee.

GERMAN TREATMENT OF TETANUS.—Professor Weintraud, of Wiesbaden, refers in the *Berliner Klinische Wochenschrift* of Oct. 19th to the increasing occurrence and heavy mortality from tetanus in war time. He advocates the following course of treatment. 1. Prophylactic serum injection for all suffering from wounds contaminated by mud or earth. 2. Careful observation of slight initial symptoms and "localised" tetanus. 3. Open antiseptic treatment of wounds. 4. Injection of 100 units of antitetanic serum once or twice on the outbreak of symptoms. 5. Consecutive use of a 15 per cent. solution of sulphate of magnesia in doses of 5 to 10 grammes to be injected into the spinal canal, after a corresponding amount of fluid has been let out. The treatment must be conducted in hospital wards and supervised carefully by several physicians. Three cases thus treated in Wiesbaden all recovered.

THE London School of Tropical Medicine will be pleased to offer the hospitality of the school to any Belgian medical graduate who may desire board and residence while prevented from returning to his own country. The committee will also be pleased for any graduate residing with them to attend the classes of the school.

WOUNDED IN UNIVERSITY COLLEGE HOSPITAL, LONDON.—University College Hospital, as a section of Queen Alexandra's Military Hospital, provides 100 beds for sick and wounded soldiers. All these beds are now fully occupied by patients drafted during the past two weeks from the base hospitals in France. A large number of regiments are represented, and there are in addition about 20 Belgians.

BRITISH AMBULANCE FOR SERBIA.—At the close of last week, according to the Malta correspondent of the *Morning Post*, a British transport reached that island from England, having on board a British ambulance party for Serbia, consisting of 31 medical men and 27 nurses, with 12 orderlies, under Professor J. T. J. Morrison, senior surgeon to the Queen's Hospital, Birmingham. The party has been organised by the Serbian Relief Fund in London with the assistance of the Order of St. John of Jerusalem.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Dr. H. K. Anderson, F.R.S., Master of Gonville and Caius College, has been re-elected to the Council of the Senate of the University for the ensuing two years.—The special Board for Medicine has presented a report on the relation of Addenbrooke's Hospital, and the teaching of clinical medicine and surgery, to the proposed grant from the Board of Education to the medical school of the University.—Mr. Colin Mackenzie, Emmanuel College, has been approved for the degree of Doctor of Medicine *in absentia*.—Mr. John Richardson Marrack, M.B., B.C., has been elected to a Fellowship at St. John's College.

UNIVERSITY OF EDINBURGH.—The following scholarships and bursaries in the Faculty of Medicine of Edinburgh University have been awarded: Crichton research scholarship in anatomy to Stuart Bolton, M.B., Ch.B.; Vans Dunlop scholarship in anatomy to Robert Walker; Vans Dunlop scholarship in physiology to Robert Mailer; Houldsworth scholarship in pharmacology to Benjamin J. Ryrie; Grierson bursary in anatomy and physiology to Andrew O. Ross; Grierson bursary in pathology to Andrew J. Caird, M.A.; Crichton bursary in preliminary subjects to James McNabb, M.A., B.Ch.; and the Mackie bursaries to William B. Ross and Robert McGarrol.

ALVARENGA PRIZE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about $250, will be made on July 14th, 1915, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published. They must be typewritten, and if written in a language other than English should be accompanied by an English translation, and must be received by the secretary of the College, Mr. Francis R. Packard, 19, South 22nd-street, Philadelphia, on or before May 1st, 1915. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. The successful essay or a copy of it will remain in possession of the College; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1914 has been awarded to Dr. H. B. Sheffield, New York City, for his essay entitled "The Fundamental Principles Involved in the Use of the Bone Graft in Surgery."

UNIVERSITY OF LONDON.—At the meeting of the Senate on Oct. 21st the Vice-Chancellor, Sir Wilmot Herringham, was granted leave of absence for as long as might be necessary during his appointment as consulting physician with H.M. Forces at the seat of war; and the Dean of the Faculty of Medicine, Sir Alfred Pearce Gould, was appointed to act for the Vice-Chancellor during his absence. Various resolutions in respect of the war were passed by the Senate, including amendments to the regulations for medical degrees, enabling students to count service with the Forces, or in hospitals or Red Cross detachments recognised by the naval or military authorities, as equivalent to hospital practice. An addition was also made to the Regulations for the M.D. and M.S. degrees, authorising a temporary commission during the war in the Royal Army Medical Corps or Royal Naval Medical Service to be held equivalent to an "approved appointment." Dr. E. Graham Little has been reappointed a member of the committee of the Chelsea Physic Garden; Sir David Ferrier has been elected chairman of the Physiological Laboratory Committee of the University; and Sir Alfred Pearce Gould has been re-elected Dean of the Faculty of Medicine for the period 1914–16. A University Medal has been awarded to John Lloyd Davies, B.S., on the result of the July examination for the M.D. degree (Branch I., medicine). On account of the war it has been decided to

postpone the advanced courses in physiology, but the intercollegiate courses in physiology will be given as announced.

ON the occasion of the opening of Parliament on Wednesday the address in reply to the speech from the Throne was moved in the House of Commons by Sir Robert J. Price, M.P., who became a Member of the Royal College of Surgeons of England in 1876, and has represented the East Norfolk Parliamentary division for the past 22 years.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The annual general meeting of Fellows and Members will be held at the College, Lincoln's Inn-fields, W.C., on Thursday next, Nov. 19th, at 3 o'clock. A resolution will be moved by Sir Victor Horsley, and seconded by Mr. George Jones, affirming the desirability of admitting Members to direct representation on the Council of the College.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general meeting of this association will be held on Tuesday, Nov. 24th, at 3.30 P.M., at 11, Chandos-street, Cavendish-square, London, W., under the presidency of Dr. David G. Thomson. The usual quarterly dinner will not take place.

MEDICO-LEGAL SOCIETY.—A meeting of this society will be held at 11, Chandos-street, Cavendish-square, London, W., on Tuesday next, Nov. 17th, at 8.30 P.M. After an exhibition of specimens the President, Professor Harvey Littlejohn, will deliver an address, and Dr. Andrew Balfour, C.M.G., will describe Medico-legal Experiences in the Sudan.

NATIONAL UNIVERSITY OF IRELAND.—At the last meeting of the Senate of the National University of Ireland Dr. Joseph F. O'Carroll was elected to succeed the late Sir Christopher Nixon in the chair of medicine in University College, Dublin. Dr. O'Carroll had been assistant to the professor of medicine since the foundation of the University. At the same meeting Dr. John P. Henry was elected professor of ophthalmology and otology in University College, Galway; Dr. Adeline English lecturer in mental diseases; and Professor W. W. Brereton lecturer in operative surgery in the same college.

ST. LUKE'S INTERNATIONAL HOSPITAL AT TOKYO.—It is reported that the Emperor of Japan has made a donation of £10,000 towards the foundation of St. Luke's International Hospital at Tokyo, promoted by the Episcopal Mission. The gift was announced by Count Okuma, the well-known statesman and leader of the Progressive Party, at a luncheon at which a number of prominent residents of Tokyo were present. The British Ambassador and the United States Ambassador supported the scheme, which is to cost £200,000. The interest shown by the Imperial Court towards the work of charity is conspicuous. The Court while professing neither Buddhism nor Christianity has given liberal donations to Christian and Buddhist philanthropic undertakings. The Japanese Red Cross Society, which assumed its present name in 1886 when Japan joined the Geneva Convention (although a forerunner of the society was started in 1877), is under the special patronage of the Imperial family, and the benevolence of the Court has been also extended to other works of practical charity.

THE PROTECTION OF HOSPITAL BUILDINGS FROM FIRE.—The hospitals and schools committee of the National Fire Brigades' Union have issued four pamphlets containing suggested precautions against fire and for extinguishing fire. These pamphlets deal respectively with hospitals, public schools, boarding schools, and elementary schools. No. 1, a copy of which has been sent to us, refers to fires in hospitals and ought to be in the hands of everyone connected with hospital administration whatever capacity he may hold; for just as the prompt rendering of first aid, pending the arrival of more skilled help, may save the life of a patient, so a knowledge of the right thing to do on the first alarm of fire may prevent a serious catastrophe. We note with approval that the union has offered to examine the staffs of hospitals and schools who are trained in fire drill and have decided to give any information or assistance, with the establishment of gear, &c., for the protection of life and property. Further information can be obtained from the offices of the union, 22, Northumberland-avenue, London, W.C.

THE anniversary dinner of the Royal Society, which is ordinarily held on St. Andrew's Day (Nov. 30th), will not take place this year.

WE regret to announce the death at the comparatively early age of 56 of Dr. Angelo Celli, professor of State Medicine in the University of Rome and director of the Hygienic Institute attached to the Medical Faculty.

A CENTENARIAN.—Through Commander R. R. Hubbard, R.N.R., His Majesty the King has sent his congratulations to Captain Daniel Jackson, of Tooting, who will celebrate the 107th anniversary of his birthday on Nov. 20th.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS.—At the annual meeting of Fellows of the Royal Faculty of Physicians and Surgeons of Glasgow Dr. John Barlow, senior surgeon to the Glasgow Royal Infirmary, was re-elected president.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, London.

Indispensable Orthopædics: A Handbook for Practitioners. By F. Calot, Chief Surgeon to the Hôpital Rothschild. Translated from the sixth French edition by A. H. Robinson, M.D., M.R.C.S., and Louis Nicole. 8 plates and 1250 illustrations. Price 21*s.* net.

Rose and Carless's Manual of Surgery. Ninth edition. Revised by Albert Carless, M.D., M.S. Lond., F.R.C.S. Price 21*s.* net.

CHAPMAN AND HALL, London. JOHN WILEY AND SONS, New York.

A Text-book of Physiological Chemistry. By Professor Olaf Hammarsten (Upsala), with the collaboration of Professor S. G. Hedin (Upsala). Authorised translation from the author's enlarged and revised eighth German edition by John A. Mandel, Sc.D., Professor of Chemistry, New York University. Seventh edition. Price 17*s.* net.

CONSTABLE AND COMPANY, London.

On Pharmaco-Therapy and Preventive Inoculation Applied to Pneumonia in the African Native, with a Discourse on the Logical Methods which ought to be Employed in the Evaluation of Therapeutic Agents. By Sir Almroth E. Wright, M.D., F.R.S. Price 4*s.* 6*d.* net.

GREEN, W., AND SON, Edinburgh and London.

Essentials of Human Physiology. By D. Noël Paton, M.D., B.Sc. F.R.C.P. Ed., F.R.S. Fourth edition, revised and enlarged. Price 12*s.* net.

HEINEMANN, WILLIAM, London.

A Short Handbook of Cosmetics. By Dr. Max Joseph, Berlin. Second edition, revised, with appendix. Price 2*s.* 6*d.*

KIMPTON, HENRY, London and Glasgow.

Local Anæsthesia: its Scientific Basis and Practical Use. By Professor Dr. Heinrich Braun. Translated and edited by Percy Shields, M.D., A.C.S., Cincinnati, Ohio. From the third revised German edition. Price 21*s.* net.

Operative Surgery of the Nose, Throat, and Ear. By Hanau W. Loeb, A.M., M.D., Professor of Ear, Nose, and Throat Diseases in St. Louis University, in collaboration with others. In two volumes. Price £2 10*s.* net. Vol. I. Vol. II. ready shortly.

A Text-book of Practical Therapeutics. By Hobart Amory Hare, M.D., B.Sc. Fifteenth edition, enlarged, revised, and largely rewritten. 144 engravings and seven plates. Price 21*s.* net.

Life: Its Origin and Energy Mechanism. By Jadroo. Price 1*s.* net.

The Tonsils—Faucial, Lingual, and Pharyngeal. With some Account of the Posterior and Lateral Pharyngeal Nodules. By Harry Barnes, M.D. (Instructor in Harvard Medical School). Price 12*s.* 6*d.*

Quain's Elements of Anatomy. Eleventh edition. Vol. II., Part 2. Splanchnology. Edited by J. Symington, M.D., F.R.S., Professor of Anatomy in the Queen's University of Belfast. Price 10*s.* 6*d.* net.

LEWIS, H. K., London.

Lead Poisoning from the Industrial, Medical, and Social Points of View. Lectures delivered at the Royal Institute of Public Health. By Sir Thomas Oliver, M.A., M.D., F.R.C.P. Price 5*s.* net.

LONGMANS, GREEN, AND CO., London.

The Essentials of Physiology. By F. A. Bainbridge, M.A., M.D. Cantab., F.R.C.P., Professor of Physiology, University of Durham; and J. Acworth Menzies, M.D. Edin., Lecturer on Physiology, University of Durham College of Medicine. Price 10*s.* 6*d.* net.

MACMILLAN AND CO., London.

Mothercraft for School Girls. By Florence Horspool, L.O.S., C.R.S.I., Inspector of Midwives, Swansea. With a Preface by Lady Mond. Price 1*s.*

Zoological Philosophy: An Exposition with regard to the Natural History of Animals. By J. B. Lamarc. Translated, with an introduction, by Hugh Elliot. Price 15*s.* net.

PUBLISHED BY AUTHOR at 4, London Wall Buildings, E.C.

History and Romance of the Petroleum Industry. By J. D. Henry Vol. I. Price 10*s.* (To be completed in three or more volumes.)

SAMPSON LOW, MARSTON, AND CO., London.

Low's Handbook to the Charities of London, 1914. Price 1s. net.

SAUNDERS (W. B.) COMPANY, London and Philadelphia.

A Text-book of Medical Diagnosis. By James M. Anders, M.D., Ph.D., LL.D., and L. Napoleon Boston, A.M., M.D. Second edition, thoroughly revised, with 500 illustrations. Price 25s. net.
A Manual of Normal Histology and Organography. By Charles Hill, Ph.D., M.D., Professor of Histology and Embryology, Chicago Veterinary College. Third edition, thoroughly revised. Price 10s. 6d. net.

SMITH, ELDER, AND CO., London.

The Pastor's Wife. By the author of Elizabeth and her German Garden. Price .

THE SCIENTIFIC PRESS, LIMITED, London.

Standard Prescriptions for Insurance Practice. Compiled by C. H. Gunson, M.R., Ch.B. Price 1s. net.
Practical Medical Electricity. A Handbook for House Surgeons and Practitioners. By Alfred C. Norman, M.D. Edin. Illustrated. Price 5s. net.

UNWIN, T. FISHER, London.

The Story of Bethlehem Hospital from its Foundation in 1247. By Edward Geoffrey O'Donoghue, Chaplain to the Hospital. 140 illustrations. Price 15s. net.

WRIGHT, JOHN, AND SONS, LIMITED, Bristol.

Obiter Scripta: Throat, Nose, and Ear. By A. R. Friel, M.A., M.D., Honorary Physician for the Throat, Nose, and Ear, General Hospital, Johannesburg. Price 2s. 6d. net.
Urgent Surgery. By Félix Lejars. Professeur Agrégé à la Faculté de Médecine de Paris. Translated from the seventh French edition by William S. Dickie, F R C S., Surgeon, North Riding Infirmary. With 20 plates and 1086 illustrations. Vol. I.: Introductory, Head, Neck, Chest, Spine, and Abdomen. Price 25s. net.

YALE UNIVERSITY PRESS. HUMPHREY MILFORD, London; and OXFORD UNIVERSITY PRESS.

The Mental Health of the School Child. The Psycho-Educational Clinic in Relation to Child Welfare. Contributions to a New Science of Orthophrenics and Orthosomatics. By J. E. Wallace Wallin, Ph.D., Professor of Clinical Psychology in the University of Pittsburg. Price 8s. 6d. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARCLAY, R. MARY, M.B., Ch.B., has been appointed Clinical Assistant in the Ear and Throat Department at the Edinburgh Royal Infirmary.

BOUSER, G. A. G., M.R.C.S., L.R.C.P. Lond., has been appointed to the Children's Surgical Department at St. Thomas's Hospital.

BURT, W., M.R.C.S., L.R.C.P. Lond., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

CRANSTOUN, G., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Assistant at St. Thomas's Hospital.

DAWSON, H. P., M B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

FELL, A. N., M.D. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Colchester District of the county of Essex.

GIMBLETT, C. L., M.R.C.S., L.R.C.P. Lond., has been appointed to the Neurological Department at St. Thomas's Hospital.

MILLIGAN, HENRY JOSEPH, M.B., Ch.B. Glasg., D.P.H. Cantab., has been appointed Tuberculosis Officer and Deputy Medical Officer of Health for the Borough of Bootle.

PHILIP, WILFRID PATON, M.B., Ch.B. Aberd., has been appointed Resident Medical Officer to the Corporation Hospital and Assistant Tuberculosis Officer to the Borough of Bootle.

ROMANIS, W. H. C., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant in the Ear Department and in the Throat Department at St. Thomas's Hospital.

SAI, P., M.R.C.S., L.R.C.P. Lond., has been appointed to the Children's Surgical Department at St. Thomas's Hospital.

SHARP, J. E., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Assistant at St. Thomas's Hospital.

TAYLOR, JOHN MAXWELL, M.B., Ch.B Aberd., D.P.H., has been appointed Assistant Medical Officer of Health and Medical Inspector of Scholars for the Borough of Bootle.

TINDAL-ATKINSON, W. P., M.R.C S., L.R.C.P. Lond., has been appointed Radiographer to the Royal Westminster Ophthalmic Hospital.

WEAR, A. HYDE, M.B., B.S. Durh., D.P.H., B.Hy., has been appointed Assistant Medical Officer of Health and Assistant School Medical Officer to the County Borough of South Shields.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ALTON, HANTS, LORD MAYOR TRELOAR CRIPPLES' HOSPITAL AND COLLEGE.—Two Female Assistant Medical Officers for six months. Salary at rates of £120 and £100 per annum, with board, residence, and laundry.

BARNET, CLARE HALL SANATORIUM, South Mimms.—Assistant Resident Medical Officer.

BELFAST MUNICIPAL SANATORIUM, Whiteabbey.—Resident Medical Superintendent. Salary £500 per annum, with board and residence.

BETHNAL GREEN INFIRMARY, Cambridge-road, N.E.—Two Assistant Medical Officers. Salary at rate of £200 per annum, with apartments, board, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Junior House Surgeon. Salary £100 per annum, with board and laundry.

BIRKENHEAD UNION INFIRMARY.—Female Resident Assistant Medical Officer. Salary at rate of £150 per annum, with board, washing and apartments.

BIRMINGHAM AND MIDLAND EYE HOSPITAL, Church-street.—Junior House Surgeon. Salary £100 per annum, with residence, board, &c.

BIRMINGHAM CITY HOSPITAL, Lodge-road.—Assistant Resident Medical Officer. Salary £200 per annum, with board, residence, &c.

BIRMINGHAM, CITY OF.—Assistant Medical Officer of Health. Salary £300 per annum.

BIRMINGHAM, WEST HEATH SANATORIUM AND HOSPITAL.—Medical Superintendent, unmarried. Salary at rate of £300 per annum, with board and residence.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary £200 per annum, with board and residence.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, residence, and washing.

BRISTOL GENERAL HOSPITAL.—Obstetric Officer and House Surgeon to Special Departments for six months. Salary at rate of £120 per annum, with board, residence, &c.

BURNLEY, VICTORIA HOSPITAL.—Second House Surgeon. Salary £135 per annum, with residence, board, and washing.

CARDIFF, KING EDWARD VII.'s HOSPITAL.—House Surgeons for six months. Salary at rate of £100 per annum, with board, residence, and laundry.

CARDIFF, KING EDWARD VII. WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Tuberculosis Physicians. Salary £300 per annum.

CHESTER COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £200 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—Second House Surgeon. Salary £150 per annum, with board, apartments, and laundry.

CITY OF WESTMINSTER UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer and Third Assistant Medical Officer. Salaries £160 and £140 per annum respectively, with board, residence, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—Junior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance.

DERBY BOROUGH ISOLATION HOSPITAL AND SANATORIUM.—Resident Medical Officer. Salary £200 per annum, with board and residence.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £120 per annum, with board, residence, attendance, and washing.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—House Surgeon. Salary at rate of £75 per annum, with board, residence, and washing.

FAREHAM, HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £250 per annum, with apartments, board, washing, and attendance.

GATESHEAD ASYLUM, Stannington, Northumberland.—Assistant Medical Officer, unmarried. Salary £220 per annum, with rooms, board, and laundry.

GLAMORGAN COUNTY COUNCIL.—Medical Officer for Inspection of Children in Public Elementary Schools. Salary £300 per annum.

GLOUCESTER, GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway, N.—Anæsthetist. Salary 10 guineas per annum.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £200 per annum, with board, lodging, and washing.

HALIFAX UNION POOR-LAW HOSPITAL, Salterhebble.—Resident Medical Officer. Salary £120 per annum, with apartments, rations, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HUDDERSFIELD ROYAL INFIRMARY.—Senior and Junior Assistant House Surgeons. Salary £80 per annum each, with board, rooms, and washing.

HUDDERSFIELD, STORTHES HALL ASYLUM, Kirkburton.—Assistant Medical Officer. Salary £230 per annum, with rooms, board, attendance, and washing.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

LEEDS EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

LEICESTER ROYAL INFIRMARY.—Two Resident Assistant House Surgeons.

LIVERPOOL, BOARD OF CONTROL.—Assistant Medical Officer for State Institution for Mental Defectives near Liverpool. Salary not less than £300 per annum, with unfurnished house.

LIVERPOOL UNIVERSITY.—Assistant Lecturer and Demonstrator in Anatomy. Salary £175 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Female Assistant Resident Medical Officer. Salary at rate of £120 per annum, with board, residence, and laundry.

LOWESTOFT AND NORTH SUFFOLK HOSPITAL.—House Surgeon, unmarried. Salary at rate of £150 per annum, with board, residence, and laundry.

MACCLESFIELD GENERAL INFIRMARY.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

MAIDSTONE, KENT COUNTY ASYLUM.—Female Junior Assistant Medical Officer, unmarried. Salary £250 per annum, with board, quarters, attendance, washing, &c.

MANCHESTER, CITY OF.—Assistant Tuberculosis Officer. Salary £350 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for Crossley Sanatorium, Delamere Forest, Cheshire. Salary £100 per annum, with board, apartments, and laundry.

MANCHESTER INSTITUTION HOSPITALS, DR. RHODES MEMORIAL HOME, TEMPORARY HOSPITAL FOR CHILDREN, AND NEW CHILDREN'S HOSPITAL, &c., West Didsbury.—Medical Officer. Salary £700 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER, PRESTWICH UNION INFIRMARY, Charlestown-road, Blackley.—Second Assistant Resident Medical Officer. Salary £140 per annum, with board and apartments.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MANCHESTER, VICTORIA MEMORIAL JEWISH HOSPITAL, Cheetham.—Female Resident Medical Officer for six months. Salary at rate of £80 per annum, with rooms, board, and laundry.

METROPOLITAN ASYLUMS BOARD INFECTIOUS HOSPITALS SERVICE.—Assistant Medical Officers, unmarried. Salary £250 per annum, with board, lodging, and washing.

MIDDLESBROUGH EDUCATION COMMITTEE.—School Dentist. Salary £250 per annum.

MIDDLESBROUGH, NORTH ORMESBY HOSPITAL.—House Surgeon. Salary £120 per annum, with board, washing, and attendance.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Junior House Surgeon for six months. Salary at rate of £80 per annum, with board, apartments, and laundry.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Northwood.—House Physician. Salary £100 per annum, with board, residence, and washing.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W.—Honorary Assistant Physician for Out-patients. Also Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence and washing.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Senior and Junior House Physicians. Salary £50 per annum each, with board and residence.

NEW HOSPITAL FOR WOMEN, Euston-road.—Female House Physician. Two House Surgeons, and Obstetric Assistant. Board, lodging, and laundry provided. Also Assistant Pathologist. Salary £50 per annum. Also Resident Medical Officer for House of Recovery, New Barnet. Salary £60 per annum. All for six months.

NEWPORT (MON.) ROYAL GWENT HOSPITAL.—Resident Medical Officer. Salary for first six months at rate of £100 per annum, second six months £125, and third six months £150, with board, residence, and laundry.

NORTHAMPTON COUNTY BOROUGH.—Clinical Tuberculosis Officer (temporary). Salary £350 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Female House Surgeon for six months. Salary at rate of £130 per annum, with apartments, board, and washing.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £250 per annum, with apartments (not board), attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £100 per annum, with board, residence, and laundry. Also Senior House Physician. Salary £120 per annum, with board, residence, and laundry.

OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary at rate of £100 per annum, with board and residence.

PRESTON ROYAL INFIRMARY.—Assistant Resident Medical and Surgical Officer. Salary £120 per annum, with board, residence, and laundry.

RICHMOND, SURREY, ROYAL HOSPITAL.—House Surgeon. Salary at rate of £100 per annum for first month, £150 afterwards, with board, residence, and washing.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East.—Milroy Lecturer for 1916.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Election to Court of Examiners. Also Examiner in Physiology.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Two Refraction Assistants. Salary at rate of £50 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street West Strand, W.C.—Clinical Assistants for six months.

ST. PANCRAS SOUTH INFIRMARY, Pancras-road, N.W.—Senior Assistant Medical Superintendent and Senior Assistant Medical Officer of House adjacent. Salary at rate of £225 per annum, with board, apartments, and washing.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer and Casualty House Surgeon for six months. Salary at rate of £120 and £100 per annum respectively, with board and residence.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, and rations.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board and residence.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £80 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL INFIRMARY.—Two House Surgeons and Assistant House Physician for six months. Salary £100 per annum each, with board and residence.

SHETLAND, COUNTY OF.—School Medical Officer, County Medical Officer and Mainland District Medical Officer, and Tuberculosis Officer. Salary £500 per annum.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Female Third Assistant Medical Officer. Salary £140 per annum, with board, &c.

STOKE-ON-TRENT, INFECTIOUS DISEASES HOSPITAL, Bucknall.—Female Resident Assistant Medical Officer. Salary £150 per annum, with apartments, board, washing, and attendance.

SUNDERLAND ROYAL INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with board, residence, and laundry.

SWANSEA UNION INSTITUTION.—Resident Assistant Medical Officer. Salary £290 per annum.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Senior House Surgeon and Assistant House Surgeon. Salaries £120 and £80 per annum respectively, with board, lodging, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

UNIVERSITY OF LONDON.—University Chair of Physiology at London Hospital Medical College. Salary £600 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £40, with board, laundry, and lodging.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon and Junior House Surgeon and Anæsthetist. Salary £150 and £110 per annum respectively, with board, residence, and laundry.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £120 per annum, with board, residence, and washing.

WHITECHAPEL UNION INFIRMARY, Vallance-road, E.—First Assistant Resident Medical Officer. Salary £160 per annum, with rations, apartments and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Resident Medical Officer for six months. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOMEN'S HOSPITAL FOR CHILDREN, 683, Harrow-road, W.—Female Assistant Surgeon.

WORCESTER GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing.

New Addresses.

BAKER, A. E., M.R.C.S., L.R.C.P., L.D.S., 50, Brook-street, Grosvenor-square, W.

A fee of 2s. 6d. is charged for the insertion of Notices of Change of Address, which must not exceed two lines.

Births, Marriages, and Deaths.

BIRTHS.

SPARROW.—On Nov. 4th, at Essex-road, Watford, the wife of E. C. Sparrow, M.A., M.B., B.C., of a daughter.

SPEIRS.—On Nov. 5th, at The Cedars, Diss, Norfolk, to Dr. and Mrs. Speirs, a daughter.

MARRIAGES.

ACLAND—CORNER.—On Nov. 4th, at Long Sutton, Somerset, John H. D. Acland, Lieutenant R.A.M.C., to Elizabeth Margaret, daughter of Mr. Charles Corner, late Chief Engineer of Rhodesia Railways.

SMITH—HOLTON.—On Nov. 4th, at the Parish Church, Hednesford, by the Rev. H. F. Edwards, Vicar of Weston, Stafford, assisted by the Rev. W. Quibell, Vicar of Hednesford, and the Rev. W. Bagnall, Peter de Saffarie, younger son of Charles Smith, of Milligan Hall, Taunton, to Eleanor Dorothy, elder daughter of Dr. Richard Holton, of Littleworth House, Hednesford, Staffs.

DEATHS.

DAVSON.—On Nov. 6th, at St. George's Hospital, Frederick Adams Davson, M.D., J.P., in his 75th year.

KER.—On Nov. 3rd, at "Tintern," Balham-hill, Hugh Richard Ker, F.R.C.S. Edin., aged 68 years.

LAVIS.—On Sept. 10th, near Bourges, France, killed in a motor accident, Henry Johnstone Lavis, M.D., M.R.C.S., B.-ès-Sc., F.G.S., &c., aged 58 years.

LOCKWOOD.—On Nov. 8th, at Upper Berkeley-street, Portman-square, W., Charles Barrett Lockwood, F.R.C.S., aged 58 years.

O'CONNOR.—On Oct. 25th, in France, Captain Richard Dominic O Connor, R.A.M.C.

WENHAM.—On Nov. 4th, at Peking, of pneumonia, Herbert Victor Wenham, F.R.C.S., second son of Arthur and Frances Wenham, of 11, Beauchamp-avenue, Leamington, aged 37 years.

N.B.—A fee of 2s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

During the continuance of the war the size of THE LANCET *will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of* THE LANCET *have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.*

A TOUGH DOG.

To the Editor of THE LANCET.

SIR,—Some time ago I was asked to supply a poison. This poison was to be administered to a large dog for having bitten a child; 20 grains of morphinæ mur. in rice were given to the animal. In about an hour the dog went into sleep, thence into a state of coma. This was about 9.30 P.M. The following morning the animal was still under the influence of the poison but not dead. So at 10.30 A.M. 6 drachms of Scheele's prussic acid was put down the dog's throat with the aid of a syringe. The effect was rapid breathing and a slight convulsive movement. The same afternoon the animal had a prowl round the garden. To-day the dog is running about the street "quite well." Now, can you tell me why the dog did not die? It might be possible for a big dog to "pull through" after such a dose of morphia. But how is it the prussic acid did not have the desired effect? I wonder if it would be possible for the morphia to prevent absorption of the acid, and by the time the dog was free of the influence of the morphia for the acid to have lost its strength, or would it be that the acid acted as an antidote to the morphia? I might mention I have poisoned dozens of dogs with prussic acid, but never before have I administered morphia previous to the acid. The acid was taken from a bottle that had not previously been opened. I should like to be enlightened on this subject.

I am, Sir, yours faithfully,

CHAS. OLLEY.

Port Elizabeth, South Africa, Oct. 6th, 1914.

INDIAN MILITARY TITLES.

A CORRESPONDENT writes: "With the advent of the Indian troops in Europe and the examination of the casualty lists, or lists of honour, we are brought face to face with the Indian military titles which are not quite so familiar in England as in India. For instance, in the infantry there is subadar or subahdar, equivalent to captain (really 'governor'); above him, however, is the subadar-major; jemidar, jemadar, or jamadar, equivalent to a lieutenant; havildar or hawaldar, equivalent to a sergeant; but there is also 'havildar-major,' a sergeant-major; naik, a corporal; and sepoy (which is akin to the well-known 'spahi' in the old Turkish army), equivalent to a private, sipahi meaning 'soldier.' In the cavalry a sowar or sáwár ('rider') is a trooper; the duffadar or dafadar, is equivalent to the sergeant; and the risaldar is the captain or commander of a troop of cavalry, a 'risala' being a troop of horses and 'dar' being the 'master, keeper or lord.' Above him is the risaldar-major, but immediately below him is the ressaidar and the jemadar."

FULL FLEDGED.

A CORRESPONDENT draws our attention to a paragraph in the *Aberdeen Press* of Nov. 3rd which, with the omission of name and town, runs as follows:—

> After a full course in practical and theoretical dentistry at the Royal College of Physicians and Surgeons, Edinburgh, Mr. ——, The Manse, ——, has attained the degree of L.D.S. Edinburgh.

No one wants to be over-critical in these days, but whoever sent this puff to the newspaper let enthusiasm get the better of discretion.

A FLEMISH PHRASE BOOK FOR NURSES.

A PAMPHLET of useful Flemish phrases for Red Cross work, for nurses, dressers, and other ambulance workers, similar to that on French noticed in THE LANCET of Sept. 12th, p. 728, has now been prepared, and can be had free on application (enclosing a stamp for postage) to Hugo's Language Institute, 64 and 66, Oxford-street, 35, Great George-street, 33, Gracechurch-street, and 205, Earl's Court-road.

H. D. F.—The conditions laid down for the appointment of surgeons for temporary service in the Royal Navy state that applicants must "engage for 6 months certain, but the liability to serve will be limited to 5 years." They will receive two calendar months' notice of services being no longer required, and voluntary resignation of appointment will be allowed subject to the convenience of the service, but the gratuity of two calendar months' pay on discharge will be forfeited in the latter case. It seems quite clear, therefore, that at the end of six months' service the temporary surgeon can, if he wishes, resign, but exactly when his resignation would become operative must depend on where he is stationed at the moment.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. A. Mallock: Note on the Circulation of the Atmosphere.—Colonel Sir Sidney Burrard: On the Origin of the Indo-Gangetic Trough—commonly called the Himalayan Foredeep.—Mr. G. W. Walker: Approximately Permanent Electronic Orbits and the Origin of Spectral Series.—Mr. W. Jevons: Spectroscopic Investigations in connexion with the Active Modification of Nitrogen. IV., A Band Spectrum of Boron Nitride (communicated by Prof. A. Fowler).—Prof. E. Wilson: An Additional Note on the Production of High Permeability in Iron (communicated by Prof. J. A. Fleming).

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.

TUESDAY.
GENERAL MEETING OF FELLOWS at 5 P.M.
Ballot for the Election of Candidates to the Fellowship.
SECTION OF PATHOLOGY (Hon. Secretaries—Gordon W. Goodhart, C. Price-Jones): at 8.30 P.M.

WEDNESDAY.
SECTION OF THE HISTORY OF MEDICINE (Hon. Secretaries—Raymond Crawfurd, Leonard G. Guthrie): at 5 P.M.
Papers:
Dr. Raymond Crawfurd: Oliver Goldsmith and Medicine.
Mr. Macleod Yearsley: Autograph of Joseph Ignace Guillotin, with Note on Error that he fell a Victim to his own Instrument.

THURSDAY.
SECTION OF DERMATOLOGY (Hon. Secretaries—S. E. Dore, A. M. H. Gray): at 5 P.M.
Exhibition of Cases.

FRIDAY.
SECTION OF OTOLOGY (Hon. Secretaries—W. M. Mollison, E. D. D. Davis): at 5 P.M.
Cases and Specimens:
Will be shown by Dr. Wyatt Wingrave, Mr. C. E. West, Mr. E. D. Davis, Mr. W. M. Mollison, and others.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Discussion on Surgical Experiences of the Present War (opened by Sir Watson Cheyne, Bart.). Mr. A. Edmunds, Sir F. Eve, Mr. R. P. Rowlands, Mr. D'Arcy Power, Mr. C. Symonds, Dr. Embleton, Dr. I. Bruce, and others will take part.

LONDON DERMATOLOGICAL SOCIETY, St. John's Hospital, 49, Leicester-square, W.C.

TUESDAY.—4.30 P.M., Exhibition of Pathological Specimens and Cases. 5.15 P.M., Resumed Discussion on Dr. C. Mills's paper on Syphilis.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., Paper:—Sir William Osler, Bart.: Enteric in War, with Means for its Prevention.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.
TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. Dr. Owen: Demonstration of Cases in Wards. 12 noon, Mr. T. Gray: Demonstration of Fractures, &c. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 10.30 A.M., Dr. Simson: Gynæcological Demonstration. 12 noon, Lecture:—Dr. G. Stewart: Neurological Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. D. Armour: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. Bernstein: Applied Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Pardoe: Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. E. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Gynæcological (Dr. J. B. Banister). 3 P.M., Medical In-patients (Dr. R. M. Leslie).

TUESDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Nose, Throat, and Ear (Mr. H. D. Gillies). X Rays and Electrical Methods (Dr. Metcalfe). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). Special Demonstration of Selected Ear, Nose, and Throat Cases (Mr. H. D. Gillies).

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. H. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson); X Rays and Electrical Methods (Dr. Metcalfe).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. K. Wilson: Motor Localisation in the Central Nervous System.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. K. Wilson: Sensory Localisation in the Central Nervous System.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.

FRIDAY.—3 P.M., Lecture:—Mr. Stuart-Low: The Ear.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—4 P.M., Dr. J. L. Bunch: Itching Skin Diseases and their Treatment.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: The Treatment of Eczema.

CHADWICK PUBLIC LECTURES, Bedford College, Regent's Park, N.W.

SATURDAY.—3 P.M., Dr. A. T. Nankivell: Camp, Ship, and Hospital Hygiene—II., Health on Board Ship; The Barrier of the Seas (illustrated with lantern slides).

MANCHESTER HOSPITALS POST-GRADUATE CLINICS.

THURSDAY.—ANCOATS HOSPITAL, Mill-street.—4.30 P.M., Dr. D. E. Core: Early Signs of Locomotor Ataxia.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Asphyxia Neonatorum (continued). 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: The Treatment of Eclampsia. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: The Use of Pessaries. 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 11th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 5	29·62	S.E.	0·01	91	61	49	54	54	Fine
,, 6	29·80	S.	0·07	94	61	53	53	54	Cloudy
,, 7	30·06	S.W.	...	76	54	44	44	44	Foggy
,, 8	30·20	W.	...	74	55	41	43	47	Cloudy
,, 9	30·22	S.W.	...	80	58	41	50	53	Overcast
,, 10	30·14	S.W.	...	76	58	52	51	54	Fine
,, 11	29·96	W.	...	58	55	51	49	51	Overcast

The following magazines, journals, &c., have been received:—Journal of Tropical Medicine and Hygiene, Child, Journal of State Medicine, Public Health, New Zealand Medical Journal, American Journal of Medical Sciences, Surgery, Gynecology and Obstetrics, Polyclinic, Psychoanalytic Review, Revue Gynécologie, Archives of Pediatrics, Office International d'Hygiéne Publique, Parasitology, Post Graduate, Edinburgh Medical Journal, Indian Medical Gazette, Indian Journal of Medical Research, St. Bartholomew's Hospital Journal, Medical Review.

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